Intrapersonal and Interpersonal Processes Associated with Co-Reflection and Co-Brooding

By

Jessica Balderas
M.A., University of Houston Clear-Lake, 2016
B.Sc., University of Houston, 2011

Submitted to the graduate degree program in Psychology and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

____

Chair: Rick Ingram, Ph.D.

____

Sarah Kirk, Ph.D.

____

Nancy Hamilton, Ph.D.

____

Steve Ilardi, Ph.D.

____

Alesia Woszidlo, Ph. D.

Date Defended: 19 May 2021

The dissertation committee for Jessica Balderas certifies that this is the approved version of the following dissertation:

Intrapersonal and Interpersonal Processes Associated with Co-Reflection and Co-Brooding

Chair: Rick Ingram, Ph.D.

Date Approved: 19 May 2021

Abstract

Depression is one of the most pervasive and debilitating psychiatric disorders, and it is thus imperative that research identifies factors that characterize depression vulnerability. Although subsyndromal depressive symptoms (i.e., dysphoria) are a depression risk factor, the way that an individual responds to negative emotions may also mitigate or prolong that emotional state, thereby modulating depression vulnerability. Much research on depression has examined how thinking about a negative event in the form of reflective rumination (problem-solving) and brooding rumination (focusing on negative events and their consequences) differentially predicts both depressive symptoms and maladaptive avoidance behaviors. Comparatively less research has examined the use of co-rumination, wherein dyads collaboratively co-reflect and co-brood. Notably, existing research does indicate that co-reflection and co-brooding subtypes are differentially associated with depressive symptoms, yet more research is needed to examine the robustness of this relationship. Additionally, less is known about intrapersonal and interpersonal processes that modulate the use of co-brooding and co-reflection, or the mechanisms through which these co-rumination subtypes modulate depression risk, especially during an ongoing negative event, such as Covid-19. The current study examined (a) the relationship between depression risk, co-rumination subtypes, and avoidance behaviors, (b) intrapersonal (e.g., personality) factors' association with co-rumination subtypes, (c) the association between co-ruminating partners' use of acceptance statements (positive regard and attentiveness) and challenge statements (goal motivation) on the use of co-rumination subtypes and avoidance behaviors, and (d) the relationship between co-rumination subtypes, negative events surrounding an ongoing stressor (Covid-19), and depression risk. Participants were undergraduate students from the University of Kansas' introductory psychology course who reported their interpersonal and intrapersonal rumination, affect, negative experience with Covid-19, avoidance behaviors, emotion reactivity and tolerance, neuroticism, and the frequency with which their close friend provides acceptance and challenge statements during problem-focused talk. Hierarchical multiple regression and moderation analyses indicated that neither co-rumination subtypes were associated with current depressive symptoms, and co-brooding was not associated with avoidance behaviors. Moreover, avoidance behaviors and intrapersonal rumination were not shown to moderate the relationship between co-brooding and current depressive symptoms. Regarding intrapersonal factors, emotion reactivity and emotion tolerance, but not neuroticism, were associated with use of co-rumination subtypes. Regarding acceptance and challenge statements, both were differentially associated with avoidance behaviors, and at higher levels, they interacted to predict decreased behavioral nonsocial avoidance. Finally, co-rumination subtypes did not moderate the relationship between negative events related to Covid-19 and current depressive symptoms. Results indicated that co-rumination subtypes may not always have an adaptive or maladaptive association with depressive symptoms; however, results indicated intrapersonal factors that can be used to identify individuals who might be more likely to use co-rumination subtypes. Additionally, although the current study did not find evidence to support the relationship between co-rumination and avoidance behaviors, it does appear that messages exchanged within a dyad can modulate the use of avoidance behaviors, which has implications for interpersonal treatment approaches targeting avoidance behaviors.

Table of Contents

Depression is one of the most pervasive and debilitating psychiatric disorders (Clasen et al., 2013; Kessler & Wang, 2009), and because depression affects nearly 20% of individuals at some point during their lifetime (Kessler & Wang, 2009), it is imperative that research identifies the factors that characterize depression risk. Although there are a variety of ways in which this risk can be viewed, one well-recognized conceptualization is the presence of subsyndromal depressive symptoms (i.e., dysphoria). Dysphoria is a negative affective syndrome (Ingram & Hamilton, 1999) that is similar to, yet less severe than, depression (Ingram & Wisnicki, 1999; Moor & Brown, 2012). Dysphoria is often assessed via a self-report measure of depressive symptoms, such as the Beck Depression Inventory (Beck, 1967), which provides a dimensional approach for assessing symptom severity rather than a categorial diagnosis of depression (Kendall et al., 1987). Given that subsyndromal symptoms are risk factors for syndromal symptom profiles (Cuijpers & Smit, 2004), individuals experiencing dysphoria are considered an ideal population for understanding the underlying mechanisms of depressive phenomena that increase depression risk, such as negative affect (Cuijpers & Smit, 2004). For example, the way that an individual responds to difficult events that engender negative emotions may mitigate or prolong that emotional state, thereby modulating depression vulnerability (Berking et al., 2013; Joormann & Vanderlind, 2014).

Covid-19

A global event that is associated with unprecedented negative emotional, psychological, and physical outcomes is the Covid-19 pandemic, which escalated in the US in March of 2020 (Fitzpatrick et al., 2020; Kroska et al., 2020; Rajkumar, 2020) and as of now has continued for more than a year. As a result of Covid-19, many individuals experienced significant health risks to themselves and others, financial insecurity due to unemployment, disruption to daily events (e.g., attending school), and reduced access to basic needs (Fitzpatrick et al., 2020; Holmes et al., 2020). Perhaps not surprisingly, there is evidence that the negative impact of Covid-19 has coincided with worsened mental health outcomes, including increased depressive and anxious symptoms (Daly et al., 2020; Ettman et al., 2020; Fitzpatrick et al., 2020; Marroquin et al., 2020; McGinty et al., 2020).

Negative mental health outcomes are also likely exacerbated by social distancing behaviors (e.g., avoiding physically close contact with others) that are aimed at reducing Covid-19 contagion (Marroquin et al., 2020; McGrail et al., 2020; Saltzman et al. 2020). In particular, social distancing disrupts access to social connections and interpersonal support that typically mitigates negative affect (Holt-Lunstad et al., 2015; Saltzman et al. 2020). For example, research conducted during previous infectious disease outbreaks (e.g., the 2003 SARS outbreak), and during the current Covid-19 pandemic, has revealed a link between social distancing and negative affect, including depressive symptoms (Cava et al., 2005; Hawryluck et al., 2004; Marroquin et al., 2020; Pfefferbaum et al., 2012).

Depending on how individuals respond to negative affect, they either mitigate or prolong a negative emotional state, and thereby also modulate depression vulnerability (Berking et al., 2013; Joormann & Vanderlind, 2014). Although numerous studies have examined how individuals respond to negative emotions that arise from daily negative life events (Kneeland et al., 2020), less is known about how individuals respond to negative emotions during an ongoing and crippling negative life event that also disrupts social connections, such as the Covid-19 pandemic. Thus, Covid-19 exposed individuals to a myriad of events associated with negative affect, while also disrupting access to protective factors.

Emotional Responding

Individuals do not passively experience emotions. Rather, they respond in ways that influence their emotional experience, which has far-reaching implications for one's mood, given that frequent emotional states blend into mood states over time (Gross, 2014). For instance, frequent sad emotion can become a sad mood state, which is characteristic of depression (American Psychiatric Association, 2013). Emotional response strategies that are used in response to emotion-eliciting events, such as Covid-19, can be considered either putatively adaptive, or maladaptive, and can be expressed intrapersonally (e.g., cognitions) or interpersonally (e.g., disclosing cognitions) (Gross, 2014; Zaki & Williams, 2013). One intrapersonal process, that has received considerable theoretical and empirical attention, is rumination.

Rumination. Rumination is a repetitive focus on oneself, and in the case of depression, on the depressive symptoms and perceived causes of those symptoms (Nolen-Hoeksema, 1991). The factor structure of rumination has been derived from its most common scale, the Ruminative Response Scale (RRS; Treynor et al., 2003), a self-report measure of negative, repetitive thought. A factor analysis of the RRS revealed that rumination can be differentiated into two subtypes: reflective and brooding (Treynor et al., 2003). Reflective rumination is characterized by problem-solving with the intent to behave in a way that addresses the cause of negative affect (Treynor et al., 2003). Reflective rumination is inversely associated with depressive symptoms and is positively associated with recovery from depression (Arditte & Joormann, 2011). In contrast, brooding rumination is characterized by recurrent and passive thought about the experience, consequence, and causes of depressive symptoms (Nolen-Hoeksema et al., 2008). Brooding rumination appears to maintain and exacerbate depressive symptoms by directing attention to negative affect, disrupting problem-solving, and reducing self-efficacy and motivation (Joormann et al., 2011; Kuehner & Weber, 1999; Lyubomirsky et al., 1999; Nolen-Hoeksema et al., 2008; Sarin et al., 2005; Thomas et al., 2011).

Despite the cognitive and emotional immersion involved in passively recalling negative events, it has been theorized that brooding rumination is a form of avoidance (Kross et al., 2005). It has also been proposed that cognitive preoccupation with negative events (rumination) is related to cognitive and behavioral avoidance (Dickson et al., 2012; Martell et al., 2001). Specifically, brooding rumination is thought to increase hopelessness about a situation, which deters problem-solving behaviors within an aversive environment (Nolen-Hoeksema et al., 2008). Similarly, behavioral activation treatment for depression underscores brooding rumination as a form of avoidance that reinforces a lack of control or accountability over circumstances, as evidenced by patterns of withdrawal and reduced problem-solving (Martell et al., 2001; Watkins, 2016). Consequently, more time is spent dwelling on the negative aspects of an event as opposed to engaging in problem-solving behaviors that might alleviate negative affect. Indeed, research has linked brooding rumination with decreased confidence in problem-solving ideas, reduced problem-solving behaviors, and implicit loss avoidance following bereavement (Eisma et al., 2015; Ward et al., 2003). Moreover, research has shown associations between behavioral and emotional avoidance (e.g., suppression) and brooding rumination in both depressed individuals and healthy controls (Liverant et al., 2011; Moulds et al., 2007; Watkins, 2016).

Rumination and Covid-19. Given that rumination was shown to modulate cognitive (e.g., problem-solving) and emotional (e.g., prolong negative affect) responses to negative events (Eisma et al., 2015; Nolen-Hoeksema, 1991), several studies have examined ruminative thought in response to Covid-19. Rumination was shown to partially mediate the association between (a) Covid-19 stressors and stress consequences (e.g., negative cognitive and emotional symptoms),

(b) Covid-19 social media exposure and negative cognitive and emotional outcomes, (c) and intolerance of uncertainty surrounding Covid-19 and mental well-being (Hong et al., 2020; Satici et al., 2020; Ye et al., 2020a). Additionally, several studies (Bakker & van Wingerden, 2020; Ye et al., 2020b) modified existing rumination measures to query about Covid-19-specific rumination (e.g., “I often think about why Covid-19 turned out the way it did”). Results indicated that Covid-19-specifc rumination was associated with greater negative affect, including depressive symptoms (Bakker & van Wingerden, 2020; Ye et al., 2020b; Zhou et al., 2020).

Co-rumination. While most research on depressive symptoms has examined the effects of intrapersonal rumination on depressive symptoms, comparatively less research has examined the relationship between depressive symptoms and interpersonal rumination. This is surprising given that individuals often turn to others for social support to help them manage their emotions and cope with difficult situations (Zaki & Williams, 2013). Indeed, it is not uncommon for individuals to express their thoughts and feelings to another person. The friendship literature indicates that close friendships often are characterized by self-disclosure (Dindia & Allen, 1992). However, Rose (2002) proposed that when negatively valenced thoughts and feelings are excessively shared within a dyad, the nature of the dialogue becomes ruminative. Rose (2002) defined the interpersonal use of rumination, or co-rumination, as a process wherein individuals mutually encourage extensive and repetitive discussion of problems and the associated negative affect, while attempting to identify the cause of those problems. Because co-rumination is a social process, it is thought that dyads feel closer to one another due to the sharing and eliciting of thoughts and feelings, which reinforces co-rumination (Ames-Sikora et al., 2017; Rose, 2002; Smith & Rose, 2011; cf. Felton et al., 2019). As such, co-rumination has been operationalized as a double-edged sword because of its association with interpersonal closeness and internalizing symptoms.

Consistent with Coyne's (1976) interactional theory of depression, which posits that an individual's depression is exacerbated via maladaptive social interactions, co-rumination has been shown to be positively associated both with concurrent and prospective self-reports of depressive (and anxious) symptoms, and with the onset, severity, duration, and history of diagnosed depressive episodes (Ames-Sikora et al., 2017; Bastin et al., 2015; Calmes & Roberts, 2008; Hankin et al., 2018; Rose, 2002; Stone et al., 2010; Stone et al., 2011; Tompkins et al., 2011; Waller & Rose, 2010; White & Shih, 2012; c.f. Zalk & Tillfors, 2017). Relatedly, co-rumination is also associated with rumination, and research has shown that co-rumination predicts increases in rumination, which in turn predicts greater depressive symptoms (Felton et al., 2019; Rose, 2002; Stone & Gibb, 2015). Under certain conditions (e.g., high personal distress), co-rumination has been found to mediate friends' depression contagion, which is the predictive increase in an individual's depressive symptoms that is explained by another individual's depressive symptoms (Brechwald & Prinstein, 2011; Schwartz-Mette & Rose, 2012; Schwartz-Mette & Smith, 2018). Co-rumination is also related to negative, stressful events. Specifically, co-rumination was associated with increased stress and depressive symptoms and was shown to both moderate the relationship between daily stressful events and depressive symptoms, and to interact with stressors to predict depressive symptoms over time (Bastin et al., 2014; Bastin et al., 2015; Bouchard & Shih, 2013; Hankin et al., 2010; Hruska et al., 2017; Nicolai et al., 2013; Roeder et al., 2019; Rose et al., 2017; Shapero et al., 2016; Starr, 2015; White & Shih, 2012). Co-rumination also mediated the relationship between catastrophizing and patient fatigue following cancer treatment (Müller et al., 2019). Additionally, studies on post-disaster co-rumination found that disaster exposure (e.g., severe flooding) increased risk for depressive and anxious symptoms at greater levels of co-rumination (Abel et al., 2020; Felix et al., 2020). Given the association between co-rumination and risk for depressive symptoms, and the evidence that the maladaptive effects of co-rumination are similar across genders (Hankin et al., 2010; Nicolai et al., 2013; cf. Borowski & Zeman, 2018; Bouchard & Shih, 2013; Rose et al., 2007; Stone et al., 2011), it is important to identify mechanisms through which co-rumination modulates depression vulnerability.

To better understand the relationship between co-rumination and depressive symptoms, Bastin et al. (2014) conducted a factor analysis on the Co-rumination Questionnaire (Rose, 2002), a self-report measure of co-ruminative behavior that is the most frequently used measure of co-rumination. Results indicated the presence of co-brooding and co-reflective subtypes, similar to rumination (Treynor et al., 2003). They also found that while only co-brooding was positively associated with concurrent depressive symptoms, each subscale was better at predicting depressive symptoms when compared to the combined total (Bastin et al., 2014). That is, co-brooding positively predicted young adolescents' depressive symptoms whereas co-reflection negatively predicted depressive symptoms. Bastin et al. (2017) partially replicated these findings and found a moderating effect of gender such that young adolescent females' (but not males') co-brooding was associated with concurrent and prospective depressive symptoms, and an inverse relationship was found for co-reflection. Notably, one study that examined the association between negative affect and co-problem solving, a construct similar to co-reflection wherein another person was present while the individual attempted to problem-solve, found that compared to co-rumination, co-problem solving was more effective in reducing negative affect (Stone et al., 2019). Research also has indicated that co-brooding within existing relationships and during brief, experimental conditions with strangers is associated with changes in affect, including increased negative affect (Afifi et al., 2019; Horn & Maercker, 2016; Zelic et al., 2017). Thus, there is accumulating empirical evidence indicating that co-rumination subtypes modulate depression risk.

Given that research might provide a more nuanced understanding of how co-rumination modulates depression risk, and the evidence that co-brooding is an emotional response strategy that is frequently used among depressed youth (Waller et al., 2014), it is surprising that so few studies have examined co-brooding and co-reflection. For example, although intrapersonal brooding is associated with avoidance (Moulds et al., 2007), it is unknown whether co-brooding also would be associated with avoidance behaviors. An examination of this relationship might help to clarify mechanisms through which co-rumination is associated with depressive symptoms. And because co-rumination subtypes have shown differential associations with depression vulnerability, research might profitably examine factors that contribute to the use of co-brooding and co-reflection, respectively.

Co-rumination and Covid-19. Although co-rumination is associated with depressive symptoms and daily stressors (Bastin et al., 2015; Bouchard & Shih, 2013; Hruska et al., 2017; Nicolai et al., 2012; Rose et al., 2017), less is known about whether co-rumination modulates depression risk during an ongoing negative event, such as Covid-19. There is evidence that following significant adversity or stressful situations, co-rumination increases and is associated with a reduction in perceived risks of seeking social support, such as becoming a burden to others (Carr, 2019). Given that Covid-19 has resulted in a multitude of negative events for many individuals, and the fact that social distancing behaviors have disrupted social connectedness, co-rumination seems particularly relevant given that it provides a platform for individuals to simultaneously engage in repetitive discussion of negative events and foster a sense of interpersonal closeness (Ames-Sikora et al., 2017; Rose, 2002; Smith & Rose, 2011).

The only study addressing co-rumination during Covid-19 found that greater co-rumination was associated with worsened depressive and anxious symptoms (Zhou et al., 2020). While such research is valuable for understanding how interpersonal emotional responding is associated with depression risk during an ongoing negative event, there are several limitations and areas of future research that should be addressed. First, in this study, co-rumination was assessed via three items that did not differentiate between co-reflection and co-brooding, which prevents an examination of whether these co-rumination subtypes during the pandemic modulate depression risk. Second, the modality used to co-ruminate (e.g., in-person, electronic communication) is relevant to the Covid-19 pandemic given that social distancing behaviors change how individuals interact with one another. For instance, individuals might rely on electronic communication when face-to-face communication is not possible. Although limited, there is evidence to suggest that individuals co-ruminate through technology, including cellphones (Murdock et al., 2015; Zalk & Tillfors, 2017). Davila et al. (2012) found that increased co-rumination was associated with greater time spent on social networking sites and texting applications, which they interpreted as suggesting that co-rumination can occur when dyads are not physically close. Moreover, Ellis et al. (2020) found that greater time spent engaging with friends virtually during Covid-19 was associated with greater depressive symptoms and posit that because online interactions mirror in-person behaviors, there is risk for virtual co-rumination. Therefore, research should examine different modalities that individuals use to repetitively discuss negative events, as this might clarify processes through which co-rumination occurs even when individuals are not physically present with one another.

Individual Differences and Emotional Responding

In addition to elucidating the relationship between co-rumination subtypes and depression vulnerability, and the modality through which it might occur during the Covid-19 pandemic, it seems prudent to examine factors that contribute to the use of co-rumination. Individual differences in how one responds to their emotions might precede depressive symptoms. Extant research shows that depression vulnerable individuals (compared to non-vulnerable individuals) differ in their ability to effectively respond to negative emotions (Teasdale, 1988). This suggests that individual differences regarding the use of specific emotional response strategies may precede the occurrence of depression (Nolen-Hoeksema et al., 2008). Research has largely focused on how depressed individuals respond to emotional experiences. Comparatively less research has examined individual differences associated with the use of emotional response strategies among depression vulnerable groups (Campbell-Sills & Barlow, 2007; Joormann & Gotlib, 2010), especially in the context of interpersonal emotion-influencing behaviors (Carlucci et al., 2018).

Personality

Personality traits describe enduring patterns of behaviors, including emotional response strategies, that have been shown to modulate risk for internalizing symptoms. For instance, neuroticism is associated with depression risk (Vinograd et al., 2020). This is perhaps unsurprising given that neuroticism is characterized by a tendency to complain about negative events and to experience strong negative affect in reaction to negative events (Buecker et al., 2020; Ormel et al., 2013; Schindler & Querengässer, 2019). Research also has documented the relationship between neuroticism and maladaptive intrapersonal emotional responding, including rumination (Andrés et al., 2016; Muris et al., 2008; Roelofs et al., 2008). An examination of neuroticism and emotional responding during Covid-19 by Gubler et al. (2020) indicated that neuroticism was associated with poorer intrapersonal emotional responding (e.g., rumination) which was associated with increased loneliness. Similarly, there is evidence that neuroticism is negatively associated with a positive response to social interactions (Williams et al., 2018); however, studies have yet to examine the relationship between neuroticism and co-rumination. Given the relationship between neuroticism, rumination, and the tendency to complain, it is likely that individuals who are highly neurotic are also more likely to co-ruminate, yet this remains to be examined (Andrés et al., 2016; Buecker et al., 2020). If research were to show a positive association between neuroticism and co-rumination, including a potentially differential relationship with co-brooding and co-reflecting, it could help to clarify the mechanisms through which neuroticism is associated with depression risk.

Emotion Reactivity and Intolerance

In addition to personality traits, emotion reactivity is an individual difference factor that is associated with emotional responding (Braden et al., 2020; Campbell-Sills & Barlow, 2007; Quigley & Dobson, 2014; Shapero et al., 2016). Emotion reactivity includes perceived characteristics of an emotional response, such as intensity (i.e., a propensity to experience emotions strongly), sensitivity (i.e., a low threshold for an emotional response to a variety of stimuli), and persistence (i.e., experiencing emotions for a long duration) (Nock et al., 2008). Evidence suggests that emotion reactivity is a precursor to the selection of specific intrapersonal emotional response strategies (Koole, 2009; Sheppes & Levin, 2013).

Emotion Reactivity and Depressive Symptoms. Research has shown that emotion reactivity is associated with vulnerability to psychopathology, including depression (Beblo et al., 2012; Cole et al., 2020; Gross, 2002; Gross, 2014; Rubin-Falcone et al., 2020; Silk et al., 2003).

For instance, psychological distress, including depressive symptoms, is associated with persistent negative affect, sensitivity to intense emotions, and greater emotional intensity (American Psychiatric Association, 2013; Beblo et al., 2012; Bornovalova et al., 2011). One proposed mechanism of the relationship between depressive symptoms and emotion reactivity is that emotion reactivity engenders or sustains maladaptive behaviors (e.g., co-brooding) that are meant to help the individual avoid aversive stimuli (Nock et al., 2008). For example, dysphoric individuals (compared to healthy controls) have been shown to evidence greater fear and apprehension of intense emotional experiences (Beblo et al., 2012; Werner-Seidler et al., 2013). And depressed (compared to healthy) individuals' reported fear of emotions has been found to be associated with greater use of suppression, which is a putatively maladaptive emotional response strategy that is used for the purpose of avoiding emotion-eliciting thoughts (Beblo et al., 2012; Gross, 2002). Such avoidance is thought to reflect intolerance of intense emotional experiences because of the unwillingness to engage with the emotion (Liverant et al., 2011). In fact, studies have shown that at lower emotion intensity, individuals are more likely to choose adaptive emotional response strategies that require engagement with emotional experiences, whereas higher emotion intensity is associated with disengagement (e.g., avoidance) from emotional experiences (Dixon-Gordon et al., 2015; Sheppes & Levin, 2013; Sheppes et al., 2011). Studies on emotion reactivity have furthered our understanding of factors that are associated with putatively adaptive and maladaptive emotional response strategies. However, extant research has exclusively focused on the association between emotion reactivity and intrapersonal emotional responses. No study has examined whether emotion reactivity is associated with interpersonal emotional responses of co-brooding and co-reflection among individuals vulnerable to depression.

Transactional Processes and Emotional Responding

Although an examination of individual difference factors might help to clarify why some individuals are more likely to engage in co-rumination, it also seems prudent to examine how transactional processes within dyads modulates co-rumination use and its association with depressive symptoms. For instance, relationship quality has been shown to moderate the relationship between co-rumination and depressive symptoms, such that co-rumination within high quality relationships was not associated with depressive symptoms (Moreira et al., 2016). It also has been demonstrated that when a member of a co-ruminating dyad reports difficulty identifying their own emotions, co-rumination increased and the other partner is more likely to experience depressive symptoms at two-year follow-up (Borowski & Zeman, 2018; Miller, et al., 2020). Thus, co-rumination use, and its association with internalizing symptoms, appears to depend on contextual factors (Calmes & Roberts, 2008; Schwartz-Mette & Smith, 2018; Waller & Rose, 2010).

One contextual factor that is associated with co-rumination is how individuals respond to one another during social interactions (Bastin et al., 2018; Pratscher et al., 2018), yet few studies have examined specific aspects of co-ruminative conversations. One exception is a study by Afifi et al. (2019), who observed co-ruminating friend dyads, of which, one member was instructed to provide "good" or "poor" support to the other. Results showed that individuals were more likely to co-brood and to report decreased anxiety both when they desired closure on a negative topic and when their friend provided "good" support (e.g., maintained eye contact, validated emotions, assisted with cognitive reframing, increased self-esteem). Similarly, Rose et al. (2014) observed co-ruminating adolescents and found that unlike disengaged responses (e.g., ignoring, changing the subject), friends' engaged responses (e.g., supportive, asking questions, sharing related experiences and advice) were associated with continued use of co-rumination. Thus, there is evidence that dyadic exchanges during problem-focused talk modulates the use of co-rumination and its affective consequences. However, aside from an experimental investigation of support style and co-brooding (Afifi et al., 2019), no studies have examined how individuals' perception of naturally occurring, normative, transactional processes during co-rumination modulates the use of co-brooding and co-reflection. This is an important consideration because responses that reflect disengagement might increase the salience of negative affect and impair problem-solving, thereby decreasing co-reflection and increasing co-brooding and avoidance (Mor & Winquist, 2002; Moreira et al., 2016; Rose et al., 2014). Alternatively, responses that reflect engagement and support might result in feeling cared for, increase self-esteem, and protect against negative affect that arises when discussing problems, thereby increasing problem-solving through co-reflection (Moreira et al., 2016).

Understanding how responses during co-rumination influence co-brooding and co-reflection is especially important when individuals are experiencing an ongoing negative event. For instance, during Covid-19, individuals are likely seeking social support or to discuss the negative events of the pandemic, which creates opportunities to receive engaged or disengaged responses from others (Grey et al., 2020). Additionally, individuals would likely benefit from engaging in problem-solving (co-reflection), as opposed to co-brooding and avoidance, to identify ways of coping during Covid-19 (Fullana et al., 2020). Given the evidence that engaged and disengaged responses modulate co-rumination, one theoretical framework through which to understand the relationship between co-brooding and co-reflection and transactional processes, is confirmation theory (Dailey, 2006).

Confirmation Theory

Confirmation theory posits that messages conveyed during social interactions influence one's sense of self (Buber, 1965; Watzlawick et al., 1967). If messages are confirming, they should validate and improve one's self-perception through themes of acceptance and value. Disconfirming messages, however, discount or reject one's self-perception, and convey negative attitudes (Buber, 1965; Cissna & Sieburg, 1981). Confirming and disconfirming messages are associated with psychosocial adjustment. For example, confirmation theory research indicates that parental use of confirming statements was positively associated with offspring's self-esteem and openness with parents, and inversely associated with psychosocial difficulties, such as stress (Dailey, 2006; Dailey, 2009; Schrodt et al., 2007). Conversely, parental use of disconfirming statements was associated with offspring's interpersonal difficulties (Wichstrøm et al., 1994).

Recent conceptualizations of confirmation theory (Dailey, 2006; Ellis, 2002) posit two types of confirmation statements: acceptance and challenge. Acceptance statements provide positive regard and attentiveness, whereas challenge statements encourage individuals to take action towards achieving a goal (Dailey et al., 2010a). Importantly, acceptance statements do not indicate that the person should not change, but that rather that they are seen for who they are, and for their capabilities to address challenges (Buber, 1965; Holmstrom & Burleson, 2011). Additionally, challenge statements do not tell someone how to respond to an event, but rather facilitate reflection on how to adaptively respond to that event, rather than engage in maladaptive responses, such as avoidance (Dailey, 2008; Holmstrom & Burleson, 2011). Thus, acceptance and challenge statements within a dyad can affect partners' outcomes.

Messages characterized by high acceptance and high challenge, respectively, are associated with adaptive, problem-solving behaviors (e.g., healthy weight management), motivation to act towards a goal, and perceived partner helpfulness (Cranmer et al., 2018;

Cranmer et al., 2020; Dailey, 2008; Dailey, 2010; Dailey, 2019; Dailey et al., 2010b; Dailey et al., 2011; Dailey et al., 2014), yet acceptance and challenge statements also interact to predict behavioral change. For example, in research by Dailey (Dailey et al., 2016; Dailey et al., 2010a; Dailey et al., 2018) both significant others' and friends' greater use of both acceptance and challenge statements was associated with partners' increased body self-esteem, healthy weight management practices, and goal accomplishment. Given that co-rumination is a transactional process, it seems probable that acceptance and challenge statements shared during problem-focused discussions would modulate the use of problem-solving and avoidance behaviors. Notably, only one study has examined problem-solving behaviors in the context of confirmation theory and co-rumination (Arroyo et al., 2017).

Confirmation Theory and Co-rumination. Arroyo et al. (2017) examined whether friends' use of acceptance and challenge statements would modulate the relationship between co-rumination and adaptive (i.e., exercise and healthy eating) and maladaptive (i.e., binging and purging) weight control practices (WCP) among young adult females. Regarding maladaptive WCP, results indicated that co-rumination was positively associated with maladaptive WCP. Moreover, females who reported that their friend responded with greater acceptance statements reported less maladaptive WCP; however, challenge statements had no association with maladaptive WCP. Consistent with prior research (i.e., Dailey et al., 2011), acceptance and challenge statements were found by Arroyo et al. to predict unique outcomes. Acceptance statements moderated the relationship between challenge statements and maladaptive WCP such that at higher levels of challenge statements and lower levels of acceptance statements, maladaptive WCP increased (and decreased at higher levels of acceptance). Acceptance statements also moderated the relationship between co-rumination and maladaptive WCP such that at lower levels of acceptance statements and both low and high levels of co-rumination, maladaptive WCP increased. Overall, results indicated that acceptance is associated with a reduction in maladaptive WCP, especially during co-rumination, but challenge was not associated with maladaptive WCP.

Regarding adaptive WCP, Arroyo et al. (2017) found that co-rumination was negatively associated with exercise and had no association with healthy eating behaviors. However, acceptance statements were positively associated with exercising and healthy eating behaviors. In addition, challenge statements moderated the relationship between co-rumination and healthy eating behaviors such that at lower levels of challenge statements and lower levels of co-rumination, healthy eating behaviors decreased (but increased at higher levels of co-rumination). Moreover, at higher levels of challenge statements and lower levels of co-rumination, healthy eating behaviors increased (but decreased at higher levels of co-rumination). Overall, results indicated that acceptance statements are associated with a reduction in maladaptive WCP, but challenge statements were not associated with maladaptive WCP. Arroyo et al. (2017) also found that co-rumination was negatively associated with exercise and had no association with healthy eating behaviors. Given that Arroyo et al. provide the first line of evidence that acceptance and challenge statements during co-rumination have unique relationships with adaptive and maladaptive WCP, several areas of future research should be addressed. For instance, it remains to be examined whether acceptance and challenge statements are associated with other forms of adaptive and maladaptive behaviors, and whether co-rumination subtypes (not total scores), would provide more nuanced information about these potential relationships. For example, given themes of positive regard and encouragement to improve, it might be that acceptance statements would be associated with increased co-reflection and decreased avoidance behaviors, and that acceptance statements would moderate the relationship between challenge statements and maladaptive behaviors.

Summary

Dysphoria is one way to conceptualize depression vulnerability (Ingram & Wisnicki, 1999; Moor & Brown, 2012) and it allows researchers to study the underlying mechanisms of depressive phenomena, such as how one responds to negative affect (Cuijpers & Smit, 2004). For example, Covid-19 is associated with increased negative affect (Fitzpatrick et al., 2020; Kroska et al., 2020), and depending on how individuals respond to negative affect, they either mitigate or prolong their affective state, thereby modulating depression vulnerability (Berking et al., 2013; Joormann & Vanderlind, 2014). For instance, ruminative subtypes of reflection and brooding are differentially associated with depressive symptoms and maladaptive avoidance behaviors (Arditte & Joormann, 2011; Nolen-Hoeksema et al., 2008; Treynor et al., 2003). Similarly, co-ruminative subtypes exist within co-rumination, and each differentially predict depressive symptoms better than their combined total (Bastin et al., 2014; Bastin et al., 2017; Rose, 2002). Co-rumination might be particularly relevant during Covid-19 given that individuals might engage in co-rumination when seeking social support.

It is surprising that so few studies have examined co-brooding and co-reflection. Research has yet to examine whether individual difference factors (e.g., neuroticism, emotion reactivity, emotion tolerance) contribute to the use of co-brooding and co-reflection, respectively. It is also unclear whether co-rumination, like rumination, is associated with avoidance behaviors, and if this helps to explain the association between depressive symptoms and co-rumination. Moreover, it is unknown whether messages exchanged during co-rumination that convey positive regard and encourage problem-solving would moderate the use of co-reflection and co-brooding. Additionally, despite evidence regarding co-rumination, depressive symptoms, and stressful life events (Bouchard & Shih, 2013), less is known about whether co-rumination modulates depression risk during an ongoing negative event, such as Covid-19.

The Present Study

The present study investigated whether individual differences and transactional processes were associated with the use of co-reflection and co-brooding, respectively. The study examined (a) how often participants used specific communication modalities (e.g., face-to-face, talking the phone, texting) when discussing their problems with a close friend during the past month, (b) the differential associations between concurrent depressive symptoms and the use of co-brooding and co-reflection, (c) whether co-brooding was associated with avoidance behavior, (d) whether co-brooding and co-reflection were associated with individual difference factors (e.g., emotion reactivity), (e) and whether messages of acceptance and challenge would be differentially associated with the use of co-reflection and co-brooding and avoidance behaviors. Specifically, the study tested the following:

1. Given the relationship between co-rumination and depressive symptoms (Bastin et al., 2014; Bastin et al., 2017), it is expected that (1a) co-brooding will be positively associated with current depressive symptoms, and (1b) co-reflection will be associated with depressive symptoms. Given the mixed findings regarding co-reflection and current depressive symptoms (Bastin et al., 2014; Bastin et al., 2017), it is not possible to make a prediction in a particular direction.
2. Because of the association between brooding rumination and avoidance (Dickson et al., 2012; Martell et al., 2001), it is expected that (2a) co-brooding will be associated with cognitive and behavioral avoidance. Additionally, because avoidance behaviors

are associated with depressive symptoms (Nolen-Hoeksema et al., 2008; Nolen-Hoeksema et al., 2008; Watkins, 2016), and given the evidence that co-rumination increases rumination, which in turn predicts depressive symptoms (Felton et al., 2019; Rose, 2002; Stone & Gibb, 2015), it is expected that (2b) avoidance behaviors and rumination will moderate the relationship between co-brooding and current depressive symptoms.

3. Given that depression risk is associated with neuroticism and greater emotion reactivity (Beblo et al., 2012; Vinograd et al., 2020), which is associated with intolerance of intense emotional experiences (Liverant et al., 2011; Rubin-Falcone et al., 2020), it is expected that compared to nondysphoric individuals, (3a) dysphoric individuals will report greater neuroticism and emotion reactivity, and decreased emotion tolerance. Moreover, given the evidence that associated neuroticism, emotion reactivity, and emotion intolerance with putatively maladaptive intrapersonal emotional response strategies (e.g., suppression, rumination) (Andrés et al., 2016; Dixon-Gordon et al., 2015; Sheppes & Levin, 2013), it is expected that irrespective of dysphoria status, (3b) co-brooding will be positively associated with neuroticism and emotion reactivity and negatively associated with emotion tolerance, whereas the inverse will be true for co-reflection.
4. Based on existing research examining confirmation theory and adaptive and maladaptive weight control practices (Arroyo et al., 2017), acceptance and challenge statements are expected to be differentially associated with putatively adaptive and maladaptive behaviors. Regarding adaptive behaviors, (4a) acceptance statements will be positively associated with co-reflection. Regarding maladaptive behaviors, (4b)

acceptance statements will be negatively associated with co-brooding and avoidance behaviors, (4c) challenge statements will have no association with either co-brooding or avoidance behavior, and (4d) acceptance statements will moderate the relationship between challenge statements and maladaptive behaviors, such that at higher levels of challenge statements and lower levels of acceptance statements, co-brooding and avoidance behaviors will increase (and decrease as acceptance statements increases).

5. Assuming that co-rumination is associated with depressive symptoms and daily stressors (Bastin et al., 2015; Bouchard & Shih, 2013) and that research on co-rumination and Covid-19 indicates that greater co-rumination total scores are associated with depressive symptoms, it is hypothesized that (5a) co-brooding will moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms. Specifically, at higher levels of negative events related to Covid-19 and higher levels of co-brooding, current depressive symptoms will increase. Additionally, given that co-reflection was shown to mitigate depression risk (Bastin et al., 2014), it is hypothesized that (5b) co-reflection will moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms, such that at higher levels of negative events related to Covid-19 and higher levels of co-reflection, current depressive symptoms will decrease.

Method

Participants

Based on a power analysis using G*Power 3 software (Faul et al., 2009), at least 99 participants were needed to detect a small to medium-size effect with 90% power. The *a priori* effect size was based on existing literature indicating a modest effect of co-rumination on internalizing symptoms (Bastin et al., 2017). To be eligible to participate in the study, students had to be at least 18 years old.

Participants were undergraduate students from the University of Kansas' introductory psychology course who participated for course credit. A total of 313 students signed up to complete the study online. Participants were removed from the sample if they did not consent to participate in the study (n = 1), did not complete the study (n = 9), failed a validity check question (n = 50), did not provide a close friend's initials when completing the Co-Rumination Questionnaire (n = 2), completed the survey in fewer than 10 minutes (n = 1), or took longer than two standard deviations above the average completion time to complete the study (n = 3). Additionally, based on recommendations that extremely low scores on the BDI-I might misrepresent the typical presence of affective symptoms (Kendall et al., 1987), participants were excluded if they did not score above a zero on the BDI-I (n = 58). The final sample consisted of 189 participants. Overall, participants had a mean age of 19.53 (11.85) years and were mostly Caucasian (78.3%) and female (67.7%). See Table 1 for more sample characteristics.

Measures

Demographics. Participants were asked to provide demographic information such as age, gender, ethnicity, annual household income, and level of education.

Interpersonal rumination. The Co-Rumination Questionnaire (CRQ; Rose, 2002) is a self-report questionnaire that assesses the tendency to co-ruminate with a close friend. Although the CRQ originally asked participants to think of a close, same-sex friend, the current study did not specify the close friend's sex. This is consistent with previous research that examined co-rumination among college-age participants, who likely confide in others who are the opposite sex (Barstead et al., 2013; Calmes & Roberts, 2008; Moreira et al., 2016; White &

Shih, 2012). Participants were then asked to type the initials of the close friend that they were thinking of when completing the CRQ to help ensure that they were describing co-ruminating behaviors with a specific person. Participants also indicated whether they have known this close friend for several weeks, several months, or several years. The CRQ includes 27 items comprised of three questions from nine domains:

(1) frequency of discussing problems, (2) discussing problems instead of engaging in other activities, (3) encouragement by the focal child of the friend's discussing problems, (4) encouragement by the friend of the focal child's discussing problems, (5) discussing the same problem repeatedly, (6) speculation about causes of problems, (7) speculation about consequences of problems, (8) speculation about parts of the problem that are not understood, and (9) focusing on negative feelings. (Rose, 2002, p. 1832).

Participants rated items on a 5-point Likert scale that ranged from 1 (*not at all true*) to 5 (*really true*). Total possible scores range from 27 to 135. Scores are summed and higher scores indicate increased use of co-rumination. The measure has demonstrated excellent internal reliability (Rose, 2002).

To examine co-reflection and co-brooding, the same items that comprised the co-reflection and co-brooding subscales in previous research (Bastin et al., 2014; Bastin et al., 2017) were selected from the CRQ. An example of a co-reflection item is "We talk for a long time trying to figure out all of the different reasons why the problem might have happened." An example of co-brooding item is "We try to figure out every one of the bad things that might happen because of the problem." Six items comprise the co-reflection and co-brooding subscales, respectively. Total scores can range from 6 to 30 for each subscale, and higher scores indicate greater co-reflection and co-brooding, respectively.

Modality of interpersonal rumination. For the purposes of the current study, an 8-item Problem-Talk Modality Questionnaire was created that asked participants to think about the same close friend that they referred to when completing the CRQ and indicate how often they used specific communication modalities (e.g., face-to-face, talking the phone, texting) when discussing their problems with this friend during the past month. Participants rated items on a 4-point Likert scale that ranged from 0 (*never*) to 3 (*almost always*) to rate the frequency that they used a given communication modality, with higher scores indicating greater use of that modality.

Confirmation messages. Participants responded to the Acceptance and Challenge Statements Questionnaire (Dailey, 2008; Dailey et al., 2010b) to indicate how frequently they received acceptance and challenge statements from a close friend. Specifically, participants were instructed to think about the same close friend that they referred to when completing the CRQ and to indicate this friend's initials a second time, prior to completing acceptance and challenge subscales. This strategy was meant to help ensure that participants were thinking of the same friend when describing co-rumination behaviors and perceived confirmation messages. Consistent with procedures from existing research (Dailey, 2008; Dailey et al., 2010b), the acceptance subscale included four items: "When I talk to my friend about a problem that I have, she/he 'shows that she cares about me,' 'responds in a friendly voice,' 'is emotionally cold,' and 'is judgmental.' The last two items were reverse scored. The challenge subscale included eight items: "When I talk to my friend about a problem that I have, she/he 'pushes me to do better,' 'makes me really think about my choices,' 'provides a different perspective,' 'encourages me to make good choices,' 'energizes me,' 'side-steps or avoids issues related to my problem,' 'implies that doing something about the problem is not important,' and 'deflates my motivation.' The last three items were reverse scored. Participants rated items on a 7-point Likert scale that ranged from 1 (*not at all*) to 7 (*very much*) to rate the frequency that they receive acceptance and challenge statements. Total possible scores for acceptance range from 4 to 28, and total possible scores for challenge statements range from 8 to 56. Higher scores indicate greater acceptance and challenge statements, respectively. Previous research has shown that the reliability and validity for the confirmation subscales are adequate (Dailey et al., 2010b).

Intrapersonal rumination. The Ruminative Response Scale (RRS; Treynor et al., 2003) was included in the study as a covariate and moderator of co-rumination (Stone & Gibb, 2015). The RRS is a 10-item self-report measure that was derived from the Ruminative Response Scale that originates from the Response Style Questionnaire (RSQ) (Nolen-Hoeksema & Morrow, 1991). Participants rated items on a 4-point Likert-scale that ranged from 1 (*almost never*) to 4 (*almost always*) to rate the frequency that they ruminate when sad or depressed. Both reflection and brooding subscales were derived from the RRS. The reflection and brooding subscales are comprised of five items each, and total possible scores for each subscale range from 5 to 20, with higher scores indicating greater reflection and brooding, respectively. The RRS is highly related to the full, 21-item version (r = .90) and previous research demonstrated adequate reliability and validity (Roelofs et al., 2006).

Current dysphoria. The Beck Depression Inventory-I (BDI-I; Beck, 1967) is a 21-item self-report measure of subsyndromal depressive symptoms (dysphoria) over the past two weeks. The item asking about suicidal thoughts was excluded, given that anonymity made precautionary follow-up impossible. Participants rated the remaining 20 items on a 4-point Likert scale that ranged from 0 (indicating the absence of a symptom) to 3 (indicating greater severity of a symptom). Total possible scores range from 0 to 63, with higher scores indicating greater depressive symptom severity. BDI-I cutoff scores are as follows: below 10 indicates nondepressive symptoms, from 10 to 17 indicates dysphoria, and scores above 17 indicate depression (Kendall et al., 1987). Reliability and validity data for the BDI-I are adequate (Beck, 1967; Beck et al., 1988).

Past depressive symptoms. The major depressive episode module of the self-report version of the Structured Clinical Interview for DSM-IV-TR Axis I Disorders (SCID-SR; First et al., 2002) was used to screen for a past major depressive episode and was included as a covariate of current dysphoria. The SCID-SR is an 11-item questionnaire that asks participants to think of a time when they felt the most down or depressed and then indicate whether they did or did not experience each of the major depressive episode symptom criteria during that time. Participants also indicated whether they experienced depressed feelings and anhedonia for more than two weeks. If participants reported experiencing five of the nine depression symptoms, and at least one symptom was either depressed mood or anhedonia for at least two weeks, they were considered previously depressed.

Anxious symptoms. The Beck Anxiety Inventory (BAI; Beck et al., 1988) is a 21-item self-report measure of anxiety within the past week. The BAI was included in the study as a covariate of dysphoria, given the relationship between anxious and depressive symptoms. Participants rated items on a 4-point Likert scale that ranged from 0 (indicating the absence of a symptom) to 3 (indicating greater severity of a symptom). Total possible scores range from 0 to 63, with higher scores indicating greater anxiety symptom severity. Reliability and validity for the BAI are adequate (Beck et al., 1988; Fydrich et al.,1992).

Current affect. The Multiple Affective Adjective Checklist (MAACL; Zuckerman & Lubin, 1965) is an 86-item self-report measure of current affect that was included in the current study as a covariate. The MAACL includes both negative adjectives (e.g., miserable) and positive adjectives (e.g., enthusiastic). Participants are asked to select each adjective that describes their current affective state. Scores are derived by adding the number of negative items checked and the number of positive items not checked, indicating both the presence of negative affect and the absence of positive affect. Items are summed to determine the total score. Validity and reliability data for the MAACL are adequate (Lubin et al., 1985).

Emotion reactivity. The Emotion Reactivity Scale (ERS; Nock et al., 2008) is a 21-item self-report measure of emotional reactions to events. Subscales include emotional sensitivity (e.g., "My feelings get hurt easily"), intensity (e.g., "I experience emotions very strongly"), and persistence (e.g., "When I feel emotional, it is hard for me to imagine feeling any other way"). Participants rated each item on a 4-point Likert scale that ranged from 0 (*not at all like me*) to 4 (*completely like me*). Research provides support for a unidimensional, parsimonious total emotion reactivity score (where higher scores indicate greater emotion reactivity) based on the results of confirmatory factor analyses on the ERS, strong internal consistency among ERS items, and large correlations between ERS subscales (Claes et al., 2014; Lannoy et al., 2014; Nock et al., 2008; Smith et al., 2017). Reliability and validity for the ERS are adequate (Nock et al., 2008).

Emotion tolerance. The Affective Style Questionnaire (ASQ; Hofmann & Kashdan, 2010) is 20-item self-report measure of emotion-responding behaviors. Subscales include concealing (e.g., "I am good at hiding my feelings"), adjusting (e.g., "I have my emotions well under control"), and tolerating (e.g., "I can tolerate having strong emotions"). Participants rated items on a 5-point Likert scale that ranged from 1 (*not true of me at all*) to 5 (*extremely true of me*). For the purposes of the current study, only the tolerance subscale, comprised of five items, was analyzed. Total possible scores for the tolerance subscale range from 5 to 25, with higher scores indicating a greater ability to tolerate emotions. Reliability and validity for the ASQ is adequate (Hofmann & Kashdan, 2010).

Personality. The Big Five Inventory-10 (BFI-10; Rammstedt & John, 2007) is a 10-item self-report measure of personality that was derived from the original, 44-item Big Five Inventory (BFI; John et al., 1991). The BFI-10 describes personality traits and participants rate how well each description describes their own personality by rating items on a 5-point Likert scale that ranges from 1 (*disagree strongly*) to 5 (*agree strongly*). Personality trait subscales include extraversion, agreeableness, conscientiousness, neuroticism, and openness. For the purposes of the current study, only the neuroticism subscale, comprised of two items, was analyzed. Total possible scores for the neuroticism subscale range from 2 to 10, with higher scores indicating greater neuroticism. Reliability and validity for the BFI-10 are adequate (Rammstedt & John, 2007).

Difficult events. For the purposes of the current study, a 10-item Covid-19 Negative Impact Questionnaire was created that asked participants to reflect on areas of their life that were negatively affected by Covid-19. Participants were presented with several domains (e.g., school, employment, physical health) and rated each item on a 4-point Likert scale that ranged from 0 (*not at all*) to 3 (*very much so*). Scores from each item were summed to obtain a total score for Covid-19-related difficulties. Total possible scores range from 0 to 30, with higher scores indicating greater Covid-19-related difficulties.

Avoidance behavior. The Cognitive-Behavioral Avoidance Scale (CBAS; Ottenbreit & Dobson, 2004) is a 31-item self-report measure of avoidance. Subscales include behavioral-nonsocial avoidance (e.g., avoiding challenges), behavioral-social avoidance (e.g., avoiding social interactions), cognitive-nonsocial avoidance (e.g., avoiding decision-making), and cognitive-social avoidance (e.g., avoiding problem-solving interpersonal conflict). Given the potential confound of social distancing behaviors in response to Covid-19, the behavioral-social avoidance scale was excluded from the current study. Participants rated each item on a 5-point Likert scale that ranged from 1 (*not at all true for me*) to 5 (*extremely true for me*). Total possible scores for subscales are as follows: behavioral non-social avoidance ranges from 6 to 30, cognitive-nonsocial avoidance ranges from 10 to 50, and cognitive-social avoidance ranges from 7 to 35. Higher scores reflect greater avoidance behaviors. Reliability and validity for the CBAS are adequate (Ottenbreit & Dobson, 2004).

Procedure

Following the University of Kansas' IRB approval, data were collected between August of 2020 and November 2020. Students could sign up for the online study via the University of Kansas' SONA online Psychology Research Pool Interface. Participants who signed up to complete the study were redirected to a Qualtrics-hosted online survey. At the start of the study, participants were presented with informed consent, and those who consented were asked to complete several questionnaires. Following completion of the survey, participants were debriefed and were awarded two hours course credit. Participants who did not agree to participate in the study were redirected to the end of the study and did not receive credit for their participation.

Data Analysis

Bivariate correlations were used to determine the association and strength of the relationship between study variables. To examine hypothesis 1a (co-brooding will be positively associated with current depressive symptoms), hierarchical multiple regression was used to examine the association between BDI-I scores and co-brooding, after controlling for the effects of current affect (MAACL, BAI), intrapersonal rumination (RRS), past depressive symptoms

(SCID-SR), and co-reflection. To examine hypothesis 1b (co-reflection will be associated with current depressive symptoms), hierarchical multiple regression was then used to examine the association between BDI-I scores and co-reflection, after controlling for the effects of current affect (MAACL, BAI), intrapersonal rumination (RRS), past depressive symptoms (SCID-SR), and co-brooding.

To examine hypothesis 2a (co-brooding will be associated with cognitive and behavioral avoidance), hierarchical multiple regression was used to examine the association between co-brooding and the CBAS cognitive and behavioral avoidance subscales, after controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. To examine hypothesis 2b (avoidance behaviors and intrapersonal rumination will moderate the relationship between co-brooding and current depressive symptoms), Model 2 moderation analyses via SPSS macro PROCESS were conducted, controlling for current affect (MAACL, BAI).

To examine hypothesis 3a (compared to nondysphoric individuals, dysphoric individuals will report greater neuroticism and greater emotion reactivity, and decreased emotion tolerance), independent samples *t*-tests were conducted to determine if reported neuroticism (as indicated by the Big Five Inventory-10 neuroticism subscale), emotion reactivity (as indicated by the Emotion Reactivity Scale) and emotion tolerance (as indicated by the Affective Styles Questionnaire's tolerance subscale) differ based on dysphoria status. To examine hypothesis 3b (irrespective of dysphoria status, co-brooding will be positively associated with neuroticism and emotion reactivity and negatively associated with emotion tolerance, whereas the inverse will be true for co-reflection), hierarchical multiple regression was used to examine the association between the Big Five Inventory-10 neuroticism subscale, the Emotion Reactivity Scale, and the Affective

Styles Questionnaire's tolerance subscale with both the Co-rumination Questionnaire's co-brooding and co-reflection subscales, respectively, after controlling for the effects of current affect (MAACL, BDI-I, BAI) and past depressive symptoms (SCID-SR).

To examine hypothesis 4a (acceptance statements will be positively associated with co-reflection) and 4b (acceptance statements will be negatively associated with co-brooding and avoidance behaviors), hierarchical multiple regressions were used to examine the association between co-reflection and the acceptance statements, and the association between co-brooding and the CBAS cognitive and behavioral avoidance subscales, respectively, after controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and challenge statements total score.

To examine hypothesis 4c (challenge statements will have no association with either co-brooding or avoidance behavior), hierarchical multiple regressions were used to examine the association between challenge statements and co-brooding and the CBAS cognitive and behavioral avoidance subscales, respectively, after controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and acceptance statements total score. To examine hypothesis 4d (acceptance statements will moderate the relationship between challenge statements and maladaptive behaviors of co-brooding and avoidance), Model 1 moderation analyses via SPSS macro PROCESS were conducted, controlling for current affect (MAACL, BAI, BDI-I).

To examine hypothesis 5a (co-brooding will moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms), a Model 1 moderation analysis via SPSS macro PROCESS was conducted, controlling for current affect (MAACL, BAI), intrapersonal rumination (RRS), and interpersonal reflection (CRQ co-reflection subscale).

To examine hypothesis 5b (co-reflection will moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms), the same Model 1 moderation analysis via SPSS macro PROCESS was conducted, however interpersonal reflection (CRQ co-reflection subscale) was replaced with interpersonal brooding (CRQ co-brooding subscale).

Results

Correlations and Psychometric Properties of Study Variables

Pertaining to study hypotheses, bivariate correlations indicated that the CRQ co-brooding subscale significantly correlated with the CRQ co-reflection subscale ($r = .86$, $p < .001$), the ERS ($r = .28$, $p < .001$), and the ASQ tolerance subscale ($r = .17$, $p = .01$). The CRQ co-reflection subscale significantly correlated with acceptance ($r = .23$, $p = .001$) and challenge ($r = .23$, $p = .001$) statements, the ERS ($r = .23$, $p = .001$), and the ASQ tolerance subscale ($r = .20$, $p = .005$). Acceptance and challenge statements were significantly correlated ($r = .66$, $p < .001$) and were respectively related to the CBAS cognitive nonsocial avoidance subscale ($r = -.15$, $p = .03$; $r = -.27$, $p <.001$) and ASQ tolerance subscale ($r = .16$, $p = .02$; $r = .21$, $p = .003$). Challenge statements correlated with CBAS behavioral nonsocial avoidance subscale ($r = -.21$, $p = .003$) and cognitive social avoidance subscale ($r = -.30$, $p < .001$). See Table 1 for additional information regarding study variables' correlations. See Table 2 for information regarding study variables' psychometric properties.

Current Depressive Symptoms

The total sample's mean BDI-I score was 11.79 (9.14). A total of 90 participants scored between one and nine on the BDI-I (indicating nondysphoria) with a mean score of 4.60 (2.41). A total of 57 participants scored between 10 and 17 on the BDI-I (indicating dysphoria) with a mean score of 13.21 (2.36). As seen in Table 3, there were significant differences between the dysphoric and nondysphoric groups regarding gender ($\chi^2(1, N = 147) = 5.33$, $p = .02$) and identification as African American/Black ($\chi^2(1, N = 147) = 5.23$, $p = .03$), and no significant differences between groups on other categories of race and ethnicity (*p*s > .05), age ($t(145) = .78$, $p = .43$), or education level ($t(144.98) = 1.74$, $p = .08$).

Friendship Length and Problem-Talk Modality

Participants reported knowing their best or close friend for several weeks (1.6%), several months (13.2%), or several years (84.7%). Participants also reported that within the past month, that they "almost always" talked about their problems with their best or close friend via face-to-face discussion (34.4%), telephone calls (16.4%), phone messenger apps (24.3%), streaming videos (9.5%), Instagram (3.2%), or email (.5%). See Table 4 for further information regarding problem-talk modality.

Study Hypotheses

Hypothesis 1a posited that co-brooding would be positively associated with current depressive symptoms (BDI-I), after controlling for current affect (BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. A hierarchical multiple regression was conducted with the CRQ co-brooding subscale as the independent variable and the BDI-I total score as the dependent variable, controlling for current affect (BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 67.78$, $p < .001$, $R^2 = .67$) accounted for statistically significant variance in BDI-I scores. Adding the CRQ co-brooding subscale accounted for .001% additional variance in BDI-I scores (step 2: (F(1, 162) = .43, p = .51, ΔR^2 = .001). The overall model was statistically significant (F(6, 162) = 56.36, p < .001, adjusted R^2 = .66) and accounted for 67.6% of the variance in BDI-I scores. In the overall model, only the MAACL (β = .01, t(162) = 7.69, p < .001), BAI (β = .004, t(162) = 2.60, p = .01), and SCID-SR (β = .05, t(162) = 7.67, p < .001) were significant predictors of current depressive symptoms. Thus, contrary to the prediction, co-brooding was not significantly associated with depressive symptoms.

Hypothesis 1b posited that co-reflection would be associated with current depressive symptoms (BDI-I), after controlling for current affect (BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-brooding. A hierarchical multiple regression was conducted with the CRQ co-reflection subscale as the independent variable and the BDI-I total score as the dependent variable, controlling for current affect (BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-brooding. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: (F(5, 163) = 67.90, p < .001, R^2 = .67) accounted for statistically significant variance in BDI-I scores. Adding the CRQ co-reflection subscale accounted for .00% additional variance in BDI-I scores (step 2: (F(1, 162) = .24, p = .62, ΔR^2 = .00). The overall model was statistically significant (F(6, 162) = 56.36, p < .001, adjusted R^2 = .66) and accounted for 67.6% of the variance in BDI-I scores. In the overall model, only the MAACL (β = .01, t(162) = 7.69, p < .001), BAI (β = .004, t(162) = 2.60, p = .01), and SCID-SR

(β = .05, $t(162)$ = 7.67, p < .001) were significant predictors of current depressive symptoms. Thus, co-reflection was not significantly associated with depressive symptoms.

Hypothesis 2a posited that cognitive and behavioral avoidance (CBAS) would be positively associated with co-brooding, after controlling for current affect (BDI-I, BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. No assumption violations were identified when a hierarchical multiple regression was conducted with the CRQ co-brooding subscale as the independent variable and the CBAS behavioral nonsocial avoidance subscale as the dependent variable, controlling for current affect (BDI-I, BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(6, 162)$ = 12.75, p < .001, R^2 = .32) accounted for statistically significant variance in CBAS behavioral nonsocial avoidance scores. Adding the CRQ co-brooding subscale accounted for .007% additional variance in CBAS behavioral nonsocial avoidance scores (step 2: ($F(1, 161)$ = 1.70, p = .19, ΔR^2 = .007). The overall model was statistically significant ($F(7, 161)$ = 11.22, p < .001, adjusted R^2 = .29) and accounted for 32.8% of the variance in CBAS behavioral nonsocial avoidance scores. In the overall model, only the BAI (β = .05, $t(161)$ = 2.03, p = .04) and BDI-I (β = .13, $t(161)$ = 2.37, p = .01) were significant predictors of CBAS behavioral nonsocial avoidance scores. Thus, co-brooding was not significantly associated with behavioral nonsocial avoidance.

Next, a hierarchical multiple regression was conducted with the CRQ co-brooding subscale as the independent variable and the CBAS cognitive nonsocial avoidance subscale as the dependent variable, controlling for current affect (BDI-I, BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(6, 162) = 13.16$, $p < .001$, $R^2 = .32$) accounted for statistically significant variance in CBAS cognitive nonsocial avoidance scores. Adding the CRQ co-brooding subscale accounted for .002% additional variance in CBAS cognitive nonsocial avoidance scores (step 2: ($F(1, 161) = .44$, $p = .50$, $\Delta R^2 = .002$). The overall model was statistically significant ($F(7, 161) = 11.31$, $p < .001$, adjusted $R^2 = .30$) and accounted for 33% of the variance in CBAS cognitive nonsocial avoidance scores. In the overall model, only the MAACL ($\beta = .18$, $t(161) = 2.62$, $p = .009$) and BDI-I ($\beta = .35$, $t(161) = 3.42$, $p = .001$) were significant predictors of CBAS cognitive nonsocial avoidance scores. Thus, co-brooding was not significantly associated with cognitive nonsocial avoidance.

Next, a hierarchical multiple regression was conducted with the CRQ co-brooding subscale as the independent variable and the CBAS cognitive social avoidance subscale as the dependent variable, controlling for current affect (BDI-I, BAI, MAACL), past depressive symptoms (SCID-SR), intrapersonal rumination (RRS), and co-reflection. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(6, 162) = 9.95$, $p < .001$, $R^2 = .26$) accounted for statistically significant variance in CBAS cognitive social avoidance scores. Adding the CRQ co-brooding subscale accounted for .006% additional variance in CBAS cognitive social avoidance scores (step 2: ($F(1, 161) = 1.26$, $p = .26$, $\Delta R^2 =.006$). The overall model was statistically significant ($F(7, 161) = 8.72$, $p < .001$, adjusted $R^2 = .24$) and accounted for 27.5% of the variance in CBAS cognitive social avoidance scores. In the overall model, only the MAACL ($\beta = .11$, $t(161) = 2.38$, $p = .01$) and BDI-I ($\beta = .15$, $t(161) = 2.31$, $p = .02$) were significant predictors of CBAS cognitive social avoidance scores. Thus, co-brooding was not significantly associated with cognitive social avoidance. Overall, co-brooding was not significantly associated with any of the CBAS subscales.

Hypothesis 2b posited that cognitive and behavioral avoidance (CBAS) and intrapersonal rumination (RRS) would moderate the relationship between co-brooding and depressive symptoms (BDI-I), after controlling for current affect (MAACL, BAI). A moderation analyses via SPSS macro PROCESS was conducted with BDI-I scores entered as the outcome variable (Y), the CRQ co-brooding subscale as the predictor variable (X), and both the CBAS cognitive nonsocial avoidance subscale (W) and the RRS total score (Z) entered as moderators, controlling for current affect (MAACL, BAI). All variables that defined products were mean centered. There was a violation of the assumption of homoscedasticity, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. The overall model was statistically significant ($F(7, 161) = 37.30$, $p < .001$, $R^2 = .56$, $MSE = .06$). However, neither the interaction between co-brooding and the CBAS cognitive nonsocial avoidance subscale ($b_3 = -.00$, $SE = .00$, $t(161) = 1.32$, $p = .18$), nor the interaction between co-brooding and the RRS total score ($b_5 = .00$, $SE = .00$, $t(161) = .01$, $p = .98$), were significant. See Table 5 for additional output information and see Figure 1 for a statistical diagram. Thus, neither cognitive nonsocial avoidance, nor intrapersonal rumination, moderated the relationship between co-brooding and current depressive symptoms.

Next, the same moderation analysis was conducted, but the CBAS cognitive nonsocial avoidance subscale was replaced by the CBAS behavioral nonsocial avoidance subscale. There was a violation of the assumption of linearity, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. The overall model was statistically significant ($F(7, 164) = 36.85$, $p < .001$, $R^2 = .55$, $MSE = .07$). However, neither the interaction between co-brooding and the CBAS behavioral nonsocial avoidance subscale ($b_3 = -.00$, $SE = .00$, $t(164) = .42$, $p = .66$), nor the interaction between co-brooding and the RRS total score ($b_5 = .00$, $SE = .00$, $t(164) = .08$, $p = .93$), were significant. See Table 6 for additional output information and see Figure 2 for a statistical diagram. Thus, neither behavioral nonsocial avoidance, nor intrapersonal rumination, moderated the relationship between co-brooding and current depressive symptoms.

Next, the same moderation analysis was conducted, but the CBAS behavioral nonsocial avoidance subscale was replaced by the CBAS cognitive social avoidance subscale. There was a violation of the assumption of linearity, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. The overall model was statistically significant ($F(7, 162) = 36.73$, $p < .001$, $R^2 = .54$, $MSE = .07$). However, neither the interaction between co-brooding and the CBAS cognitive social avoidance subscale ($b_3 = -.00$, $SE = .00$, $t(162) = .69$, $p = .48$), nor the interaction between co-brooding and the RRS total score ($b_5 = .00$, $SE = .00$, $t(162) = .08$, $p = .93$), were significant. See Table 7 for additional output information and see Figure 3 for a statistical diagram. Thus, neither cognitive social avoidance, nor intrapersonal rumination, moderated the relationship between co-brooding and current depressive symptoms.

Hypothesis 3a posited that, compared to nondysphoric individuals, dysphoric individuals would report greater neuroticism and greater emotion reactivity, and decreased emotion tolerance. An independent samples *t*-test was conducted to determine if neuroticism, emotion reactivity, and emotion tolerance differed based on dysphoria status. No assumption violations were identified. There was a statistically significant difference in neuroticism scores between the dysphoric (*M* = 7.35, *SD* = 1.67) and nondysphoric (*M* = 6.32, *SD* = 1.98) group ($t(145) = 3.25$, $p = .001$), with the dysphoric group scoring higher than the nondysphoric group by a difference of 1.02. There also was a statistically significant difference in total emotion reactivity scores between the dysphoric (*M* = 26.90, *SD* = 13.55) and nondysphoric (*M* = 17.33, *SD* = 10.76) group ($t(139) = 4.64$, $p < .001$), with the dysphoric group scoring higher than the nondysphoric group by a difference of 9.57. Lastly, there was a statistically significant difference in emotion tolerance scores between the dysphoric (*M* = 16.23, *SD* = 3.90) and nondysphoric (*M* = 17.50, *SD* = 3.50) group ($t(144) = 2.03$, $p = .04$), with the nondysphoric group scoring higher than the dysphoric group by a difference of 1.26. Thus, as expected, compared to nondysphoric group, the dysphoric group reported greater neuroticism and greater emotion reactivity, and decreased emotion tolerance.

Hypothesis 3b posited that, irrespective of dysphoria status, co-brooding would be positively associated with neuroticism and emotion reactivity and negatively associated with emotion tolerance, whereas the inverse would be true for co-reflection, after controlling for current affect (MAACL, BDI-I, BAI) and past depressive symptoms (SCID-SR). No assumption violations were identified when a hierarchical multiple regression was conducted with the BFI-10 neuroticism subscale, ERS total score, and the ASQ emotion tolerance subscale entered as independent variables and the CRQ co-brooding subscale as the dependent variable, controlling for current affect (MAACL, BDI-I, BAI) and past depressive symptoms (SCID-SR). The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(4, 164) = 1.70$, $p = .15$, $R^2 = .04$) did not account for statistically significant variance in CRQ co-brooding scores. Adding the BFI-10 neuroticism subscale also did not account for statistically significant variance in CRQ co-brooding scores (step 2: (*F*(1,

163) = .22, p = .63, ΔR^2 = .001). However, adding the ERS total score did account for statistically significant variance in CRQ co-brooding scores (step 3: (F(1, 162) = 12.35, p = .001, ΔR^2 = 0.06), as did the addition of the ASQ tolerance scores (step 4: (F(1, 161) = 6.18, p = .014, ΔR^2 = 0.03). The overall model was statistically significant (F(7, 161) = 3.81, p = .001, adjusted R^2 = .10) and accounted for 14.2% of the variance in CRQ co-brooding scores. In the overall model, only the ERS total score (β = .15, t(161) = 3.43, p = .001) and the ASQ tolerance subscale (β = .35, t(161) = 2.48, p = .01) were significant predictors of CRQ co-brooding scores. Thus, contrary to expectations, neuroticism was not associated with co-brooding scores and emotion tolerance indicated an unexpected, positive relationship with co-brooding; however, as predicted, emotion reactivity was positively associated co-brooding.

Next, the same hierarchical multiple regression was conducted, but the CRQ co-reflection subscale replaced the CRQ co-brooding subscale as the dependent variable. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: (F(4, 164) = 2.54, p = .04, R^2 = .05) did account for statistically significant variance in CRQ co-reflection scores. Adding the BFI-10 neuroticism subscale did not account for statistically significant variance in CRQ co-reflection scores (step 2: (F(1, 163) = .02, p = .88, ΔR^2 =.000). However, adding the ERS total score did account for statistically significant variance in CRQ co-reflection scores (step 3: (F(1, 162) = 7.43, p = .007, ΔR^2 = .04), as did the addition of the ASQ tolerance scores (step 4: (F(1, 161) = 7.93, p = .005, ΔR^2 = .04). The overall model was statistically significant (F(7, 161) = 3.81, p = .001, adjusted R^2 = .10) and accounted for 14.2% of the variance in CRQ co-reflection scores. In the overall model, only the ERS total score (β = .11, t(161) = 2.62, p = .009) and the ASQ tolerance subscale (β = .39, t(161) = 2.81, p = .005) were significant predictors of CRQ co-reflection scores. Thus, contrary to expectations, neuroticism was not associated with co-reflection scores and emotion reactivity indicated an unexpected positive relationship with co-reflection; however, as predicted, emotion tolerance was positively associated with co-reflection.

Hypothesis 4a posited that acceptance statements would be positively associated with co-reflection, after controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and challenge statements. No assumption violations were identified when a hierarchical multiple regression was conducted with the acceptance statements total score as the independent variable and the CRQ co-reflection subscale as the dependent variable, controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and challenge statements. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 3.58$, $p = .004$, $R^2 = .09$) did account for statistically significant variance in CRQ co-reflection scores. Adding in the acceptance statements total score did not account for statistically significant variance in CRQ co-reflection scores (step 2: ($F(1, 162) = 2.21$, $p = .13$, $\Delta R^2 = 0.01$). The overall model was statistically significant ($F(6, 162) = 3.37$, $p = .004$, adjusted $R^2 = .07$) and accounted for 11.1% of the variance in CRQ co-reflection scores. In the overall model, there were no significant predictors of CRQ co-reflection scores. Thus, contrary to expectations, acceptance statements were not positively associated with co-reflection.

Hypothesis 4b posited that acceptance statements would be negatively associated with co-brooding and avoidance behaviors, after controlling for current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and challenge statements. No assumption violations were identified when a hierarchical multiple regression was conducted with the acceptance statements total score as the independent variable and the CRQ co-brooding subscale as the dependent variable, controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and challenge statements total score. Neither the covariates (step 1: ($F(5, 163) = 1.77$, $p = .12$, $R^2 = .05$) nor the addition of the acceptance statements total score (step 2: ($F(1, 162) = .69$, $p = .40$, $\Delta R^2 = .004$) accounted for statistically significant variance in CRQ co-brooding scores. The overall model was not statistically significant ($F(6, 162) = 1.59$, $p = .15$, adjusted $R^2 = .02$). Thus, contrary to expectations, acceptance statements were not associated with co-brooding.

Next, the same hierarchical multiple regression was conducted, but the CRQ co-brooding subscale was replaced with the CBAS behavioral nonsocial avoidance subscale as the dependent variable. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 16.33$, $p < .001$, $R^2 = .33$) did account for statistically significant variance in CBAS behavioral nonsocial avoidance scores. Adding in the acceptance statements total score did not account for statistically significant variance in CBAS behavioral nonsocial avoidance scores (step 2: ($F(1, 162) = 2.58$, $p = .11$, $\Delta R^2 = 0.01$). The overall model was statistically significant ($F(6, 162) = 14.17$, $p < .001$, adjusted $R^2 = .32$) and accounted for 34.4% of the variance in the CBAS behavioral nonsocial avoidance total score. In the overall model, only the BAI ($\beta = .07$, $t(162) = 2.67$, $p = .008$), BDI-I ($\beta = .15$, $t(162) = 2.76$, $p = .006$), and the challenge statements total scores ($\beta = -.18$, $t(162) = 2.92$, $p = .004$) were significant predictors of CBAS behavioral nonsocial avoidance. Thus, contrary to expectations, acceptance statements were not associated with behavioral nonsocial avoidance.

Next, the same hierarchical multiple regression was conducted, but the CBAS behavioral nonsocial avoidance subscale was replaced with the CBAS cognitive nonsocial avoidance subscale as the dependent variable. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 18.78$, $p < .001$, $R^2 = .36$) did account for statistically significant variance in CBAS cognitive nonsocial avoidance scores. Adding in the acceptance total score did not account for statistically significant variance in CBAS cognitive nonsocial avoidance scores (step 2: ($F(1, 162) = .43$, $p = .50$, $\Delta R^2 = .002$). The overall model was statistically significant ($F(6, 162) = 15.67$, $p < .001$, adjusted $R^2 = .34$) and accounted for 36.7% of the variance in the CBAS cognitive nonsocial avoidance total score. In the overall model, only the BDI-I ($\beta = .38$, $t(162) = 3.91$, $p < .001$) and the challenge statements total scores ($\beta = -.33$, $t(162) = 2.89$, $p = .004$) were significant predictors of CBAS cognitive nonsocial avoidance. Thus, contrary to expectations, acceptance statements were not associated with cognitive nonsocial avoidance.

Next, the same hierarchical multiple regression was conducted, but the CBAS cognitive nonsocial avoidance subscale was replaced with the CBAS cognitive social avoidance subscale as the dependent variable. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the CBAS cognitive social avoidance total scores. No assumption violations were identified following the logarithmic transformation. The first step of the hierarchical multiple regression indicated that covariates (step 1: ($F(5, 163) = 15.05$, $p < .001$, $R^2 = .31$) did account for statistically significant variance in CBAS cognitive social avoidance scores. Adding in the acceptance total score also accounted for statistically significant variance in CBAS cognitive social avoidance scores (step 2: ($F(1, 162) = 6.15$, $p = .01$, $\Delta R^2 = 0.025$). The overall model was statistically significant ($F(6, 162) = 13.97$, $p < .001$, adjusted $R^2 = .31$) and accounted for 34.1% of the variance in the CBAS cognitive social avoidance total score. In the overall model, the BAI ($\beta = .002$, $t(162) = 2.13$, $p = .03$), the challenge statements total scores ($\beta = -.01$, $t(162) = 4.66$, $p < .001$), and the acceptance statements total score ($\beta = .009$,

$t(162) = 2.48$, $p = .01$) were significant predictors of CBAS cognitive social avoidance. Thus, as expected, acceptance statements were associated with cognitive social avoidance, however the direction of the relationship was positive.

Hypothesis 4c posited that challenge statements would evidence no relationship with either co-brooding or avoidance behaviors, after controlling for current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and acceptance statements. No assumption violations were identified when a hierarchical multiple regression was conducted, with the challenge statements total score as the independent variable and the CRQ co-brooding subscale as the dependent variable, controlling for the effects of current affect (MAACL, BDI-I, BAI), past depressive symptoms (SCID-SR), and acceptance statements total score. Neither the covariates (step 1: ($F(5, 163) = 1.86$, $p = .10$, $R^2 = .05$) nor the addition of the challenge statements total score (step 2: ($F(1, 162) = .29$, $p = .59$, $\Delta R^2 = .002$) accounted for statistically significant variance in CRQ co-brooding scores. The overall model was not statistically significant ($F(6, 162) = 1.59$, $p = .15$, adjusted $R^2 = .02$). Thus, as expected, challenge statements were not associated with co-brooding.

Next, the same hierarchical multiple regression was conducted, but the CRQ co-brooding subscale was replaced with the CBAS behavioral nonsocial avoidance subscale as the dependent variable. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 14.61$, $p < .001$, $R^2 = .31$) did account for statistically significant variance in CBAS behavioral nonsocial avoidance scores. Adding in the challenge statements total score did account for statistically significant variance in CBAS behavioral nonsocial avoidance scores (step 2: ($F(1, 162) = 8.56$, $p = .004$, $\Delta R^2 = 0.03$). The overall model was statistically significant ($F(6, 162) = 14.17$, $p < .001$, adjusted $R^2 = .32$)

and accounted for 34.4% of the variance in the CBAS behavioral nonsocial avoidance total score. In the overall model, only the BAI (β = .07, $t(162) = 2.67$, p = .008), BDI-I (β = .15, $t(162) = 2.76$, p = .006), and the challenge statements total scores (β = -.18, $t(162) = 2.92$, p = .004) were significant predictors of CBAS behavioral nonsocial avoidance. Thus, contrary to expectations, challenge statements were negatively associated with behavioral nonsocial avoidance.

Next, the same hierarchical multiple regression was conducted, but the CBAS behavioral nonsocial avoidance subscale was replaced with the CBAS cognitive nonsocial avoidance subscale as the dependent variable. No assumption violations were identified. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 16.38$, $p < .001$, $R^2 = .33$) did account for statistically significant variance in CBAS cognitive nonsocial avoidance scores. Adding in the challenge statements total score did account for statistically significant variance in CBAS cognitive nonsocial avoidance scores (step 2: ($F(1, 162) = 8.39$, p = .004, $\Delta R^2 = 0.03$). The overall model was statistically significant ($F(6, 162) = 15.67$, $p < .001$, adjusted $R^2 = .34$) and accounted for 36.7% of the variance in the CBAS cognitive nonsocial avoidance total score. In the overall model, only the BDI-I (β = .38, $t(162) = 3.91$, $p < .001$) and the challenge statements total scores (β = -.33, $t(162) = 2.89$, p = .004) were significant predictors of CBAS cognitive nonsocial avoidance. Thus, contrary to expectations, challenge statements were negatively associated with cognitive nonsocial avoidance.

Next, the same hierarchical multiple regression was conducted, but the CBAS cognitive nonsocial avoidance subscale was replaced with the CBAS cognitive social avoidance subscale as the dependent variable. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the CBAS cognitive social avoidance total scores.

No assumption violations were identified following the logarithmic transformation. The first step of the hierarchical multiple regression analysis indicated that covariates (step 1: ($F(5, 163) = 11.01$, $p < .001$, $R^2 = .25$) did account for statistically significant variance in CBAS cognitive social avoidance scores. Adding in the challenge statements total score did account for statistically significant variance in CBAS cognitive social avoidance scores (step 2: ($F(1, 162) = 21.75$, $p < .001$, $\Delta R^2 = 0.08$). The overall model was statistically significant ($F(6, 162) = 13.97$, $p < .001$, adjusted $R^2 = .34$) and accounted for 34.1% of the variance in the CBAS cognitive social avoidance total score. In the overall model, the BAI ($\beta = .002$, $t(162) = 2.13$, $p =.03$), acceptance statements total score ($\beta = .009$, $t(162) = 2.48$, $p = .01$), and the challenge statements total scores ($\beta = -.01$, $t(162) = 4.66$, $p < .001$) were significant predictors of CBAS cognitive social avoidance. Thus, contrary to expectations, challenge statements were negatively associated with cognitive social avoidance.

Hypothesis 4d posited that acceptance statements would moderate the relationship between challenge statements and maladaptive behaviors (i.e., co-brooding and avoidance behaviors, respectively), after controlling for current affect (MAACL, BAI, BDI). A moderation analyses via SPSS macro PROCESS was conducted with the CRQ co-brooding total score entered as the outcome variable (Y), the challenge statements total score as the predictor variable (X), and the acceptance statements total score as the moderator (W), controlling for current affect (MAACL, BAI, BDI-I). All variables that defined products were mean centered. No assumption violations were identified. The overall model was not significant ($F(6, 164) = 1.08$, $p = .37$, $R^2 = .04$, $MSE = 42.80$), and the interaction between the challenge statements total score and the acceptance statements total score ($b_3 = .00$, $SE = .01$, $t(164) = .23$, $p = .81$) was not significant. See Table 8 for additional output information and see Figure 4 for a statistical diagram. Thus, contrary to expectations, acceptance statements did not moderate the relationship between challenge statements and co-brooding.

Next, the same analysis was conducted but the CRQ co-brooding total score was replaced by the CBAS behavioral nonsocial avoidance subscale as the outcome variable (Y). No assumption violations were identified. The overall model was significant ($F(6, 162) = 19.42$, $p < .001$, $R^2 = .37$, $MSE = 15.16$). The interaction between the challenge statements total score and the acceptance statements total score ($b_3 = -.03$, $SE = .01$, $t(162) = 2.87$, $p = .004$) was significant. The addition of the interaction was a significant change to the model ($F(1, 162) = 8.24$, $p = .004$, $\Delta R^2 = .033$). Results indicated that when acceptance statement scores are low (i.e., one standard deviation lower than the average score) ($b = -.07$, $SE = .07$, $t(162) = .91$, $p = .36$), there is a nonsignificant relationship between challenge statements and behavioral nonsocial avoidance. However, at the average acceptance statement score ($b = -.20$, $SE = .06$, $t(162) = 2.97$, $p = .003$), every one point increase in challenge statements is associated with a .20 point decrease in behavioral nonsocial avoidance. Moreover, when acceptance statement scores are high (i.e., one standard deviation higher than the average score) ($b = -.33$, $SE = .08$, $t(162) = 3.90$, $p < .001$), every one point increase in challenge statements is associated with a .33 point decrease in behavioral nonsocial avoidance. Probing the interaction via the Johnson-Neyman technique indicated that once acceptance statements total scores reach at least 20.97, challenge statements and behavioral nonsocial avoidance are significantly related ($t(162) = 1.97$, $p = .05$, $b = -.13$). As acceptance statement scores increase, the relationship between challenge statement scores and behavioral nonsocial avoidance scores becomes more negative with the highest acceptance statement score (28), $b = -.36$, $t(162) = 3.93$, $p < .001$. See Table 9 for additional output information, see Figure 5 for a statistical diagram, and see Figure 6 for a visual representation of the conditional effects of challenge statements on behavioral nonsocial avoidance among those with low, average, and high levels of acceptance statement scores. Thus, although there was a nonsignificant relationship between challenge statements and behavioral nonsocial avoidance when acceptance statement scores were low, results were consistent with expectations such that at higher challenge statements scores and average to high acceptance statements scores, behavioral nonsocial avoidance decreased.

Next, the same analysis was conducted but the CBAS behavioral nonsocial avoidance subscale was replaced by the CBAS cognitive nonsocial avoidance subscale. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the CBAS cognitive nonsocial avoidance subscale score. No assumption violations were identified following the logarithmic transformation. The overall model was statistically significant ($F(6, 159) = 24.85$, $p < .001$, $R^2 = .38$, $MSE = 0.02$). However, the interaction between the challenge statements total score and the acceptance statements total score ($b_3 = -.00$, $SE = .00$, $t(159) = 1.79$, $p = .07$) was not statistically significant. See Table 10 for additional output information and see Figure 7 for a statistical diagram. Thus, contrary to expectations, acceptance statements did not moderate the relationship between challenge statements and cognitive nonsocial avoidance.

Finally, the same analysis was conducted but the CBAS cognitive nonsocial avoidance subscale was replaced by the CBAS cognitive social avoidance subscale. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the CBAS cognitive social avoidance subscale scores. No assumption violations were identified following the logarithmic transformation. The overall model was statistically significant ($F(6, 161) = 17.49$, $p < .001$, $R^2 = .32$, $MSE = 0.02$). However, the interaction between the challenge statements total score and the acceptance statements total score ($b_3 = -.00$, $SE = .00$, $t(161) =$

1.07, *p* = .28) was not statistically significant. See Table 11 for additional output information and see Figure 8 for a statistical diagram. Thus, contrary to expectations, acceptance statements did not moderate the relationship between challenge statements and cognitive social avoidance.

Hypothesis 5a posited that co-brooding would moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms, after controlling for current affect (MAACL, BAI), intrapersonal rumination (RRS), and the CRQ co-reflection subscale. A moderation analysis via SPSS macro PROCESS was conducted with the BDI-I total score entered as the outcome variable (Y), the Covid-19 Negative Impact Questionnaire total score entered as the predictor variable (X), and the CRQ co-brooding subscale entered as the moderator (W), controlling for current affect (MAACL, BAI), intrapersonal rumination, and the CRQ co-reflection subscale. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. All variables that defined products were mean centered. The overall model was statistically significant ($F(7, 157) = 36.50$, $p < .001$, $R^2 = .55$, $MSE = .07$). However, the interaction between the Covid-19 Negative Impact Questionnaire total score and the CRQ co-brooding subscale was not statistically significant ($b_3 = -.00$, $SE = .00$, $t(157) = .88$, $p = .37$). See Table 12 for additional output information and see Figure 9 for a statistical diagram. Thus, contrary to expectations, co-brooding did not moderate the relationship between the negative impact of Covid-19 and current depressive symptoms.

Hypothesis 5b posited that co-reflection would moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms, after controlling for current affect (MAACL, BAI), intrapersonal rumination (RRS), and the

CRQ co-brooding subscale. A moderation analysis via SPSS macro PROCESS was conducted with the BDI-I total score entered as the outcome variable (Y), the Covid-19 Negative Impact Questionnaire total score entered as the predictor variable (X), and the CRQ co-reflection subscale entered as the moderator (W), controlling for current affect (MAACL, BAI), intrapersonal rumination (RRS total score), and the CRQ co-brooding subscale. The assumption of homoscedasticity was violated, and so a logarithmic transformation was performed on the BDI-I total scores. No assumption violations were identified following the logarithmic transformation. All variables that defined products were mean centered. The overall model was statistically significant ($F(7, 157) = 37.33$, $p < .001$, $R^2 = .56$, $MSE = .07$). However, the interaction between the Covid-19 Negative Impact Questionnaire total score and the CRQ co-reflection subscale was not statistically significant ($b_3 = -.00$, $SE = .00$, $t(157) = 1.66$, $p = .09$). See Table 13 for additional output information and see Figure 10 for a statistical diagram. Thus, contrary to expectations, co-reflection did not moderate the relationship between the negative impact of Covid-19 and current depressive symptoms.

Discussion

The current study examined friends' use of various communication modalities (e.g., face-to-face) when discussing their problems, and intrapersonal (e.g., neuroticism) and interpersonal (e.g., confirmation messages) factors associated with co-brooding and co-reflection within the context of the Covid-19 pandemic. The study also examined whether co-rumination was associated with avoidance behaviors, and whether this would help to explain the relationship between co-rumination and depressive symptoms. Although several hypotheses were consistent with expectations and existing literature, others were not supported. Nonetheless, the current study contributed to the literature in several important ways.

The current study was the first to examine various communication modalities that individuals use to engage in problem-focused discussions with their friends during the Covid-19 pandemic, when social distancing procedures likely interfered with typical communication modalities (e.g., in-person talking). Results indicated that participants most often reported a high frequency of problem-talk via in-person verbal communication, followed by phone messenger applications and talking on the phone. Thus, results are consistent with prior research that suggested that co-ruminative behaviors occur via technology (Davila et al., 2012; Murdock et al., 2015; Zalk & Tillfors, 2017). The current study's results might inform interventions aimed at reducing co-rumination by increasing awareness through which co-ruminative behaviors might occur, and consequently increase depression risk (Ames-Sikora et al., 2017; Stone et al., 2011). Moreover, a review of written co-ruminative dialog (e.g., text messages) might provide a context for individuals to identify and modify co-ruminative behavior patterns. Additionally, given that co-rumination is conceptualized as a double-edged sword because of increased feelings of social connectedness and negative affect (Calmes & Roberts, 2008; Rose, 2002), programs that promote the use of virtual communication during Covid-19 (Gabbiadini et al. 2020) might benefit from educating users on putatively adaptive and maladaptive communication styles.

Regarding the first hypothesis, cross-sectional and regression-based analyses indicated that neither co-brooding nor co-reflection were associated with current depressive symptoms after controlling for current affect, past depressive symptoms, intrapersonal rumination, and other co-rumination subtype. Thus, results were inconsistent with past research on the cross-sectional relationship between co-rumination subtypes and depressive symptoms, and results were consistent with regression analyses that indicated that neither co-brooding nor co-reflection were associated with current depressive symptoms (Bastin et al., 2014; Bastin et al., 2017).

Discrepant findings may be partially attributable to methodological differences in participants' age. Specifically, research suggests that during the transition from adolescence to adulthood, individuals' repertoire and use of emotional response strategies changes, with a trend towards an increase in putatively adaptive emotional response strategies (Zimmermann & Iwanski, 2014). Unlike the current study's participants' mean age of 19.53, Bastin and colleagues' (2014; 2017) participants' mean age was 11.73 and 13, respectively. Therefore, it might be that compared to youth, the current study's sample of young adults had developed a greater repertoire of adaptive emotional response strategies (that were not assessed in the current study) that buffered the effects of co-brooding and co-reflection. Moreover, research has shown that characteristics of the co-ruminating dyad modulate the association between co-rumination total scores and depressive symptoms (Ames-Sikora et al., 2017; Calmes & Roberts, 2008; Moreira et al., 2016). That is, increased co-rumination with same-sex friends (but not parents, romantic partners, or roommates) was associated with depressive symptoms, whereas co-rumination within high quality relationships was not associated with depressive symptoms (Calmes & Roberts, 2008; Moreira et al., 2016). Because the current study did not require participants to describe their co-rumination behaviors with a person of a specific sex, or assess relationship quality, future research should examine whether characteristics of a dyad modulate the relationship between both co-brooding and co-reflection and depressive symptoms. Additionally, it is surprising that regression analyses indicated that co-brooding and co-reflection were not differentially associated with current depressive symptoms, given that experimental research and ecological momentary assessment studies have shown that co-reflection and co-brooding are differentially associated with negative affect (Afifi et al., 2019; Horn & Maercker, 2016; Stone et al., 2019;

Zelic et al., 2017). Inconsistent results may be partially attributable to differences in co-brooding and co-reflection measurement (e.g., observational measurement versus self-report).

Regarding hypothesis 2a, co-brooding was not associated with behavioral nonsocial avoidance, cognitive nonsocial avoidance, nor cognitive social avoidance after controlling for current affect, past depressive symptoms, intrapersonal rumination, and co-reflection. Thus, the hypothesis that co-brooding would be associated with avoidance behavior was not supported, despite the association between intrapersonal rumination and avoidance behaviors (Dickson et al., 2012; Kross et al., 2005; Martell et al., 2001; Watkins, 2006). Given the evidence that co-rumination predicted rumination use over time, which increased depressive symptoms (Felton et al., 2019; Stone & Gibb, 2015), it is plausible that co-rumination is associated with greater prospective avoidance behavior, and that this relationship would be at least partially mediated by rumination, yet this remains to be examined. Additionally, despite the nonsignificant relationship between co-brooding and depressive symptoms in hypothesis 1, *a prior* moderation analyses were carried out to examine hypothesis 2b. Inconsistent with expectations, co-brooding did not interact with cognitive nonsocial avoidance, behavioral nonsocial avoidance, cognitive nonsocial avoidance, or intrapersonal rumination to predict depressive symptoms, after controlling for current affect. Notably, intrapersonal rumination and cognitive nonsocial avoidance were unique predictors of current depressive symptoms.

Regarding hypothesis 3a, results were consistent with expectations and previous research (Beblo et al., 2012; Liverant et al., 2011; Rubin-Falcone et al., 2020; Vinograd et al., 2020), such that compared to the nondysphoric group, the dysphoric group reported greater neuroticism and greater emotional reactivity, and decreased emotion tolerance. Therefore, compared to healthy controls, results indicated that individuals with dysphoria are more likely to possess the personality characteristic of neuroticism and to respond to emotions with greater sensitivity, intensity, and persistence, which have been shown to increase use of maladaptive emotional response strategies and depression risk (Beblo et al., 2012). Conversely, compared to healthy controls, results indicated that individuals with dysphoria are less likely to be able to tolerate intense emotions, which has been shown to increase avoidance behaviors (Liverant et al., 2011).

In hypothesis 3b, the current study also explored whether neuroticism, emotion reactivity and emotion tolerance were associated with co-brooding and co-reflection, irrespective of dysphoria status, after controlling for current affect and past depressive symptoms. Results were partially consistent with expectations. Neuroticism was related to neither co-brooding nor co-reflection, which is surprising given the association between neuroticism and maladaptive intrapersonal emotional response strategies (e.g., rumination) and a greater tendency to complain (Andrés et al., 2016; Buecker et al., 2020; Ormel et al., 2013). This unexpected finding, paired with the fact that the current study indicated significant cross-sectional correlations between neuroticism and the rumination total score and subscales (but not co-rumination total score or subscales), suggests that neuroticism might be associated with greater use of specific maladaptive interpersonal, not intrapersonal, emotional response strategies. There is a lack of research examining personality traits and specific emotional response strategies, especially in the context of interpersonal emotional responding (Hughes et al., 2020). As such, this is the first study to examine neuroticism and co-rumination, and additional research on the relationship between interpersonal emotional responding and neuroticism is needed.

Results from hypothesis 3b also indicated that emotion reactivity was positively associated both with co-brooding and co-reflection. Given that previous research has shown that emotion reactivity was positively associated with maladaptive intrapersonal emotional responding (e.g., avoidance) (Dixon-Gordon et al., 2015; Nock et al., 2008; Werner-Seidler et al., 2013), the current study's finding on the relationship between emotion reactivity and co-brooding was expected and suggests that greater emotion reactivity is associated with increased use of putatively maladaptive co-brooding. However, based on the evidence that less emotion reactivity was associated with greater adaptive intrapersonal emotional response strategies that require emotional engagement (Dixon-Gordon et al., 2015; Sheppes & Levin, 2013; Sheppes et al., 2011), the positive relationship between emotion reactivity and co-reflection was unexpected. This finding may be partially attributable to the fact that previous research has shown that co-reflection was positively associated with positive aspects of friendship quality, such as security and help (Bastin et al., 2017; Rose, 2002). That is, when an individual is experiencing greater emotion reactivity, they might engage in more co-reflection with a close friend to regulate their emotions; however, research is needed to examine this possibility. Nonetheless, this was the first study to examine whether emotion reactivity also was associated with maladaptive interpersonal emotional responding in the context of co-rumination subtypes.

In addition to the clarifying the relationship between both neuroticism and emotion reactivity and co-rumination subtypes, results from hypothesis 3b also indicated that emotion tolerance had a positive association with co-brooding and co-reflection. Given that emotion tolerance was inversely associated with avoidance behaviors (Liverant et al., 2011), coupled with the current study's premise that avoidance behaviors would be associated with co-brooding (Kross et al., 2005; Moulds et al., 2007), the positive relationship between emotion tolerance and co-brooding was unexpected, whereas the positive relationship between emotion tolerance and co-reflection was expected. These findings suggest that when individuals accept strong, negative emotional experiences, and feel comfortable displaying these emotions in front of others, they are more likely to engage in interpersonal emotional response strategies of co-brooding and co-reflection. However, like brooding and reflection, wherein the style of thought determines whether thinking about negative events has adaptive or maladaptive consequences (see Ayduk & Kross, 2010 for a review), the way that individuals communicate about negative emotions, either through co-brooding or co-reflection, would likely modulate depression risk (Afifi et al., 2019; Horn & Maercker, 2016; Stone et al., 2019; Zelic et al., 2017). Overall, the findings from the current study indicate that emotion reactivity and emotion tolerance are associated with greater use of co-brooding and co-reflection.

In addition to examining the relationships between individual difference factors, adaptive and maladaptive emotional response strategies (e.g., co-reflection, avoidance), and depression risk, the current study extended the literature by examining the relationship between confirmation theory and adaptive and maladaptive emotional response strategies. Based on the only study to have examined confirmation theory in the context of co-rumination (Arroyo et al., 2017) hypotheses 4a and 4b predicted that acceptance statements would be positively associated with co-reflection and negatively associated with co-brooding and avoidance behaviors, respectively, after controlling for the effects of current affect, past depressive symptoms, and challenge statements. Contrary to expectations, acceptance statements were not a significant predictor of co-reflection. While acceptance statements convey that an individual is capable of addressing challenges (Buber, 1965; Holmstrom & Burleson, 2011), they do not necessarily guide an individual through problem-solving steps. Therefore, acceptance statements might convey belief in one's ability to problem-solve, but in the absence of adequate problem-solving skills, co-reflection might be unlikely to occur. To address this possibility, future research could examine whether self-efficacy moderates the relationship between acceptance statements and interpersonal problem-solving (i.e., co-reflection). Results are also consistent with Dailey et al. (2010a), who note that acceptance statements alone might result in individuals believing that they do not need to engage in different behaviors, given that acceptance statements convey positive regard and attentiveness.

Regarding hypothesis 4b, results were partially consistent with expectations. Acceptance statements were not a significant predictor of co-brooding, behavioral nonsocial avoidance, or cognitive nonsocial avoidance. And although acceptance statements were a significant predictor of cognitive social avoidance, the direction of the relationship was positive. The nonsignificant results were unexpected, given that Arroyo and colleagues (2017) found a negative relationship between acceptance statements and maladaptive intrapersonal behaviors (i.e., binging and purging). A nonsignificant relationship between acceptance statements and co-brooding, and co-reflection in hypothesis 4a, suggests that acceptance statements alone may be insufficient to change a dyad’s problem-focused talk to be either co-brooding or co-reflective. Additionally, the relationship between acceptance statements and avoidance behaviors suggests that acceptance statements are associated with social, compared to nonsocial, avoidance. The unexpected positive relationship between cognitive social avoidance and acceptance statements may be partially attributable to the fact that acceptance statements convey belief that an individual is capable of addressing their problems (Buber, 1965; Holmstrom & Burleson, 2011), but does not necessarily involve the creation of problem-solving solutions. Therefore, if an individual is unable to effectively problem-solve, despite the presence of acceptance statements, they may engage in less cognitive effort to resolve social stressors. Although additional research is needed to replicate and extend findings, the current study is the first to examine how interpersonal messages conveyed during problem-talk are associated with the use of maladaptive behaviors that are associated with depression risk.

In addition to acceptance statements, the relationship between challenge statements and maladaptive behaviors was examined. Based on findings by Arroyo et al. (2017), hypothesis 4c predicted that challenge statements would have a nonsignificant relationship with co-brooding and avoidance behaviors, after controlling for current affect, past depressive symptoms, and acceptance statements. As expected, challenge statements were not a significant predictor of co-brooding, which is consistent with previous findings that challenge statements have a nonsignificant relationship with maladaptive weight control practices (Arroyo et al., 2017). However, challenge statements were a significant, negative predictor of behavioral and cognitive nonsocial avoidance and cognitive social avoidance. Although results are inconsistent with findings from Arroyo et al. (2017), the current findings are aligned with previous research that has shown that without acceptance statements, challenge statements are associated with alternative, adaptive behaviors (Ball & Crawford, 2006; Roehrig et al., 2008). It is plausible that when individuals engage in alternative, adaptive behaviors, that they consequently engage in fewer avoidance behaviors as they problem-solve. However, there is evidence to suggest that in the absence of acceptance statements, challenge statements were associated with increased attention to goal oriented behavior and decreased intrinsic motivation to engage in that behavior (Dailey et al., 2010a). Future research is needed to replicate the negative relationship between challenge statements and avoidance behaviors, and to examine whether this relationship is associated with intrinsic motivation to engage in alternative, adaptive behaviors. Nonetheless, this was the first study to examine the relationship between challenge statements and avoidance behavior, and results indicate the challenge statements alone are inversely associated with avoidance behavior.

Both acceptance and challenge statements appear differentially related to outcomes, making it important to assess the effects of each statement independently, and in combination. As such, hypothesis 4d examined whether acceptance statements would moderate the relationship challenge statements and maladaptive behaviors, after controlling for current affect. Results were partially consistent with expectations. Acceptance statements did moderate the relationship between challenge statements and behavioral nonsocial avoidance (and not other forms of maladaptive behaviors), such that at high use of challenge statements and average to high use of acceptance statements, behavioral nonsocial avoidance decreased. This finding is consistent with previous research that indicated that a combination of acceptance and challenge statements was associated with adaptive outcomes (Arroyo et al., 2017; Dailey et al., 2010a; Dailey et al., 2010b). Notably, extant research on acceptance and challenge statements has largely examined their relationship with behavioral goals and self-views (e.g., self-esteem) (Dailey, 2008; Dailey et al., 2010a; Dailey et al., 2010b), and this is the first study to examine how acceptance and challenge statements interact to predict avoidance behaviors that likely prolong negative affect and increase depression risk (Eisma et al., 2015; Moulds et al., 2007; Ward et al., 2003; Watkins, 2016). Results suggests that individuals are less likely to avoid challenging, behavioral tasks and activities when they perceive higher levels of both positive regard and attentiveness (i.e., acceptance statements) and encouragement to pursue a goal (i.e., challenge statements). The nonsignificant results regarding cognitive forms of avoidance might be partially attributable to the fact that in the current study, cognitive forms of avoidance reflected hopelessness (e.g., "There is nothing that I can do to address the problems in my relationship") and decreased long-term goal planning (e.g., "When uncertain about my future, I fail to sit down and think about what I really want"). Given that hopelessness is characterized by negative attributions regarding the future and one's ability to improve one's future (MacLeod et al., 1993), it may be that the themes conveyed through acceptance and challenge statements are less likely to decrease avoidance behaviors that are at least partially attributable to feelings of hopelessness. On the other hand, behavioral nonsocial avoidance reflected hesitation to address new challenges that have the *potential* for failure (e.g., "I avoid trying new activities that hold the potential for failure") and the individuals' existing capabilities (e.g., "Rather than try new activities, I tend to stick with the things I know"). Future research should examine whether acceptance and challenge statements moderate the relationship between hopelessness and cognitive avoidance behaviors, as results could inform treatments that target avoidance behaviors. Additionally, given the social distancing procedures associated with the ongoing Covid-19 pandemic, the CBAS behavioral social avoidance subscale was not examined in the current study. Future research should examine whether acceptance and challenge statements are associated with behavioral forms of social avoidance.

Although Covid-19 hindered the examination of behavioral social avoidance, it did allow for an examination of the relationship between co-rumination subscales, an ongoing negative event, and depressive symptoms. Based on research that examined co-ruminative behaviors after a negative event and during daily stressors (Bastin et al., 2015; Bouchard & Shih, 2013; Hruska et al., 2017; Nicolai et al., 2012; Rose et al., 2017), hypotheses 5a and 5b predicted that co-brooding and co-reflection, respectively, would moderate the relationship between reported negative events related to Covid-19 and current depressive symptoms, after controlling for current affect, interpersonal rumination, and the other co-rumination subscale. Results indicated that neither co-rumination subscale interacted with negative events related to Covid-19 to predict depressive symptoms. The unexpected findings may be partially explained by previous research that has shown that depending on the individual's relationship with the co-ruminating partner, which was not assessed in the current study, that co-rumination is neither adaptive nor maladaptive (Ames-Sikora et al., 2017; Calmes & Roberts, 2008). Additionally, the current study's results differ from the results found by Zhou et al. (2020), who found that the co-rumination (defined as problem-talk specifically centered on Covid-19) total score predicted depression only at wave two of a three-point, short-term longitudinal study. Thus, it may be that co-rumination subtypes' relationship with depressive symptoms was not observed via the current study's cross-sectional design.

Limitations and Future Directions

The present study has several limitations that suggest areas of future research. First, the generalizability of the results is limited given that the sample was comprised of undergraduate students, the majority of whom were Caucasian females. Given the evidence to suggest that co-rumination occurs across types of relationships (e.g., parental), and that communication styles (e.g., self-disclosure) differ across cultures, it is important that future research examine the relationship between depression vulnerability and co-rumination among a more heterogenous sample (Schug et al., 2010; Waller & Rose, 2010). Second, while the use of self-reported data is not inherently a limitation (Chan, 2009) and is widely use in co-rumination and confirmation theory literature (Calmes & Roberts, 2008; Rose, 2002; Arroyo et al., 2017), observational studies of co-ruminating dyads are likely to provide more nuanced information regarding the delivery of acceptance and challenge statements and the use of co-rumination subtypes. For instance, individuals within the same dyad might differ in their perception of the use of challenge and acceptance statements. Third, despite the evidence to suggest a bidirectional relationship between co-rumination and other variables of interest (e.g., relationship satisfaction; Rose et al., 2007), the current study’s cross-sectional design prevents any causal inferences. Future research might profitably examine longitudinal effects of co-reflection and co-brooding on affect and avoidance behaviors, and the potential for confirmation messages to modulate these relationships. Finally, despite the rationale for examining whether confirmation messages modulated the use of co-reflection and co-brooding (Arroyo et al., 2017; Bastin et al., 2014; Bastin et al., 2017), there are other forms of emotional responding that would be important to examine within the context of confirmation messages. For instance, acceptance messages might increase self-compassion (presence of loving-kindness towards oneself in the face of adversity), which was shown to mitigate emotional distress (Neff, 2003; Raes, 2011).

Despite limitations, the current study extends the literature in several ways. Specifically, the study addresses a paucity of research on co-rumination subtypes, which provides a greater understanding of how individual differences (e.g., neuroticism, emotion tolerance) and interpersonal processes modulate depression risk. Given the debilitating nature of depression and the importance of identifying depression risk factors (Kessler & Wang, 2009), such information could be used to inform individual depression risk profiles. Furthermore, the integration of co-rumination and communication literature (i.e., confirmation theory), coupled with the examination of factors that may modulate depression risk, is consistent with the notion that psychology would benefit from becoming a more integrative discipline that has a balanced focus on protective (e.g., co-reflection) and risk factors (co-brooding, avoidance) (Wood & Tarrier, 2010). Overall, findings indicated that co-brooding and co-reflection were not related to depressive symptoms, and given previous findings (Afifi et al., 2019; Bastin et al., 2017; Horn &

Maercker, 2016; Zelic et al., 2017), future research is needed to examine factors that modulate their association. Moreover, it appears that during problem-talk, acceptance and challenge statements have differential and combined effects that modulate avoidance behaviors, and consequently, depression risk. Results are applicable to interpersonal treatments (e.g., family or couples therapy) for depressive symptoms, as they can be used to inform dyads how communication patterns have adaptive and maladaptive cognitive and behavioral consequences. Finally, the current study was only the second study to examine co-rumination during an ongoing negative stressor (Covid-19) and provides insight into how co-rumination may exist even when typical interpersonal processes are disrupted.

References

Abel, M. R., Vernberg, E. M., Lochman, J. E., McDonald, K. L., Jarrett, M. A., Hendrickson, M. L., & Powell, N. (2020). Co-reminiscing with a caregiver about a devastating tornado: Association with adolescent anxiety symptoms. *Journal of Family Psychology*, *34*(7), 846. https://doi.org/10.1037/fam0000683

Afifi, T. D., Merrill, A., Davis, S., Denes, A., & Coveleski, S. (2019). The impact of a need for closure and support quality on verbal and cognitive brooding. *Communication Research*, *46*(6), 757-784. https://doi.org/10.1177/0093650216644018

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Ames-Sikora, A., Donohue, M. R., & Tully, E. C. (2017). Nonlinear associations between co-rumination and both social support and depression symptoms. *The Journal of Psychology: Interdisciplinary and Applied*, *151*, 597-612. https://doi.org/10.108 0/00223980.2017. 1372345

Andrés, M. L., Richaud de Minzi, M. C., Castañeiras, C., Canet-Juric, L., & Rodríguez-Carvajal, R. (2016). Neuroticism and depression in children: The role of cognitive emotion regulation strategies. *The Journal of Genetic Psychology*, *177*(2), 55-71. https://doi.org/ 10.1080/00221325.2016.1148659

Arditte, K. A., & Joormann, J. (2011). Emotion regulation in depression: Reflection predicts recovery from a major depressive episode. *Cognitive Therapy and Research, 35*(6), 536-543. https://doi.org/10.1007/s10608-011-9389-4

Arroyo, A., Segrin, C., Harwood, J., & Bonito, J. A. (2017). Co-rumination of fat talk and weight control practices: An application of confirmation theory. *Health Communication*, *32*(4), 438-450. https://doi.org/10.1080/10410236.2016.1140263

Ayduk, Ö., & Kross, E. (2010). From a distance: Implications of spontaneous self-distancing for adaptive self-reflection. *Journal of Personality and Social Psychology*, *98*(5), 809. https://doi.org/10.1037/a0019205

Bakker, A. B., & van Wingerden, J. (2020). Rumination about COVID-19 and employee well-being: The role of playful work design. *Canadian Psychology*. https://doi.org/10.1037/cap0000262

Ball, K., & Crawford, D. (2006). An investigation of psychological, social and environmental correlates of obesity and weight gain in young women. *International Journal of Obesity*, *30*(8), 1240-1249. https://doi.org/10.1038/sj.ijo.0803267

Barstead, M. G., Bouchard, L. C., & Shih, J. H. (2013). Understanding gender differences in co-rumination and confidant choice in young adults. *Journal of Social and Clinical Psychology*, *32*, 791-808. https://doi.org/10.1521/jscp.2013.32.7.791

Bastin, M., Bijttebier, P., Raes, F., & Vasey, M. W. (2014). Brooding and reflecting in an interpersonal context. *Personality and Individual Differences*, *63*, 100-105. https://doi.org/10.1016/j.paid.2014.01.062

Bastin, M., Mezulis, A. H., Ahles, J., Raes, F., & Bijttebier, P. (2015). Moderating effects of brooding and co-rumination on the relationship between stress and depressive symptoms in early adolescence: A multi-wave study. *Journal of Abnormal Child Psychology*, *43*, 607-618. https://doi.org/10.1007/s10802-014-9912-7

Bastin, M., Nelis, S., Raes, F., Vasey, M. W., & Bijttebier, P. (2018). Party pooper or life of the party: Dampening and enhancing of positive affect in a peer context. *Journal of Abnormal Child Psychology*, *46*(2), 399-414. https://doi.org/10.1007/s10802-017-0296-3

Bastin, M., Vanhalst, J., Raes, F., & Bijttebier, P. (2017). Co-brooding and co-reflection as differential predictors of depressive symptoms and friendship quality in adolescents: Investigating the moderating role of gender. *Journal of Youth and Adolescence*, *47*, 1037-1051. https://doi.org/10.1007/s10964-017-0746-9

Beblo, T., Fernando, S., Klocke, S., Griepenstroh, J., Aschenbrenner, S., & Driessen, M. (2012). Increased suppression of negative and positive emotions in major depression. *Journal of Affective Disorders*, *141*, 474-479. https://doi.org/10.1016/j.jad.2012.03.019

Beck, A. T. (1967). *Depression: Causes and treatment*. Philadelphia, PA: University of Philadelphia Press.

Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893-897. https://doi.org/10.1037/0022-006X.56.6.893

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, *8*(1), 77-100. https://doi.org/10.1016/0272-7358(88)90050-5

Berking, M., Cuijpers, P., & Hofmann, S. G. (2013). Emotion regulation skills training enhances the efficacy of inpatient cognitive behavioral therapy for major depressive disorder: A randomized controlled trial. *Psychotherapy and Psychosomatics*, *82*(4), 234-245. https://doi.org/10.1159/000348448

Bornovalova, M. A., Gratz, K. L., Daughters, S. B., Hunt, E. D., & Lejuez, C. W. (2012). Initial RCT of a distress tolerance treatment for individuals with substance use disorders. *Drug and Alcohol Dependence*, *122*(1-2), 70-76. https://doi.org/10.1016/j.drugalcdep.2011.09.012

Borowski, S. K., & Zeman, J. (2018). Emotional competencies relate to co□rumination: Implications for emotion socialization within adolescent friendships. *Social Development*, *27*(4), 808-825. https://doi.org/10.1111/sode.12293

Bouchard, L. C., & Shih, J. H. (2013). Gender differences in stress generation: Examination of interpersonal predictors. *Journal of Social and Clinical Psychology*, *32*, 424-445. https://doi.org/10 .1521/jscp.2013.32.4.424

Braden, A., Anderson, L., Redondo, R., Watford, T., Emley, E., & Ferrell, E. (2020). Emotion regulation mediates relationships between perceived childhood invalidation, emotional reactivity, and emotional eating. *Journal of Health Psychology*, 1-13. https://doi.org/10.1177/1359105320942860

Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, *21*(1), 166-179. https://doi.org/10.1111/j.1532-7795.2010.00721.x

Buber, M. (1965). *The Knowledge of Man*. New York: Harper & Row.

Buecker, S., Maes, M., Denissen, J. J., Luhmann, M., & Laceulle, O. M. (2020). Loneliness and the Big Five Personality Traits: A meta–analysis. *European Journal of Personality*, *34*(1), 8-28. https://doi.org/10.1002/per.2229

Calmes, C. A., & Roberts, J. E. (2008). Rumination in interpersonal relationships: Does co-rumination explain gender differences in emotional distress and relationship satisfaction among college students? *Cognitive Therapy and Research*, *32*, 577-590. https://doi.org/10.1007/s1 0608-008-9200-3

Campbell-Sills, L., & Barlow, D. H. (2007). Incorporating emotion regulation into conceptualizations and treatments of anxiety and mood disorders. In J. J. Gross (Ed.), *Handbook of emotion regulation* (1st ed., pp. 542-559). New York, NY:Guilford Press.

Carlucci, L., D'Ambrosio, I., Innamorati, M., Saggino, A., & Balsamo, M. (2018). Co-rumination, anxiety, and maladaptive cognitive schemas: When friendship can hurt. *Psychology Research and Behavior Management*, *11*, 133-144. https://doi.org/10.2147/PRBM.S144907

Carr, K. (2019). Rumination and perceived risk in seeking social support as mediators of the stressful impact of adversity and posttraumatic growth. *Western Journal of Communication*, *83*(4), 463-482. https://doi.org/10.1080/10570314.2019.1576217

Cava, M. A., Fay, K. E., Beanlands, H. J., McCay, E. A., & Wignall, R. (2005). The experience of quarantine for individuals affected by SARS in Toronto. *Public Health Nursing*, *22*(5), 398-406. https://doi.org/10.1111/j.0737-1209.2005.220504.x

Chan, D. (2009). So why ask me? Are self-report data really that bad? In C. E. Lance & R. J. Vanderberg (Eds.), *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (1st ed., pp. 309-336). Taylor & Francis Group.

Cissna, K. N. & Sieburg, E. (1981). Patterns of interactional confirmation and disconfirmation. In C. Wilder-Mott, & J. H. Weakland (Eds.), *Rigor and imagination: Essays from the legacy of Gregory Bateson* (pp. 253-282). New York: Praeger.

Claes, L., Smits, D., & Bijttebier, P. (2014). The Dutch version of the emotion reactivity scale. *European Journal of Psychological Assessment*, *30*(1), 73-79. https://doi.org/10.1027/1015-5759/a000171

Clasen, P. C., Wells, T. T., Ellis, A. J., & Beevers, C. G. (2013). Attentional biases and the persistence of sad mood in major depressive disorder. *Journal of Abnormal Psychology*, *122*, 74-85. https://doi.org/10.1037/a0029211

Cole, D. A., Lu, R., Rights, J. D., Mick, C. R., Lubarsky, S. R., Gabruk, M. E., Lovette, A. J., Zhang, Y., Ford, M. A., & Nick, E. A. (2020). Emotional and cognitive reactivity: Validating a multilevel modeling approach to daily diary data. *Psychological Assessment*, *32*(5), 431-441. https://doi.org/10.1037/pas0000800

Coyne, J. C. (1976). Toward an interactional description of depression. *Psychiatry*, *39*(1), 28-40. https://doi.org/10.1080/00332747.1976.11023874

Cranmer, G. A., Brann, M., & Weber, K. D. (2018). "Challenge me!" Using confirmation theory to understand coach confirmation as an effective coaching behavior. *Communication and Sport*, *6*(2), 239-259. https://doi.org/10.1177/2167479516684755

Cranmer, G. A., Gagnon, R. J., & Mazer, J. P. (2020). Division-I student-athletes' affective and cognitive responses to receiving confirmation from their head coach. *Communication and Sport*, *8*(2), 262-285. https://doi.org/10.1177/2167479518824868

Cuijpers, P., & Smit, F. (2004). Subthreshold depression as a risk indicator for major depressive disorder: A systematic review of prospective studies. *Acta Psychiatrica Scandinavica*, *109*(5), 325-331. https://doi.org/ 10.1111/j.1600-0447.2004.00301.x

Daly, M., Sutin, A. R., & Robinson, E. (2020). Longitudinal changes in mental health and the COVID-19 pandemic: Evidence from the UK Household Longitudinal Study. *Psychological Medicine*, *13*, 1-10. https://doi.org/10.1017/S0033291720004432

Dailey, R. M. (2006). Confirmation in parent-adolescent relationships and adolescent openness: Toward extending confirmation theory. *Communication Monographs*, *73*, 434-458. https://doi.org/10.1080 /03637750601055432

Dailey, R. M. (2008). Parental challenge: Developing and validating a measure of how parents challenge their adolescents. *Journal of Social and Personal Relationships*, *25*, 643-669. https://doi.org/10.1177/0265407508093784

Dailey, R. M. (2009). Confirmation from family members: Parent and sibling contributions to adolescent psychosocial adjustment. *Western Journal of Communication*, *73*(3), 273-299.

https://doi.org/10.1080/10570310903082032

Dailey, R. M. (2010). Testing components of confirmation: How acceptance and challenge from mothers, fathers, and siblings are related to adolescent self-concept. *Communication Monographs*, *77*(4), 592-617. https://doi.org/10.1080/03637751.2010.499366

Dailey, R. M. (2019). Integrating strategies from three predominant theories regarding romantic partner support of weight loss. *Journal of Social and Personal Relationships*, *36*(10), 3009-3036. https://doi.org/10.1177/0265407518810528

Dailey, R. M., Crook, B., Glowacki, E., Prenger, E., & Winslow, A. A. (2016). Meeting weight management goals: The role of partner confirmation. *Health Communication*, *31*(12), 1482-1494. https://doi.org/10.1080/10410236.2015.1089398

Dailey, R. M., Richards, A. A., & Romo, L. K. (2010a). Communication with significant others about weight management: The role of confirmation in weight management attitudes and behaviors. *Communication Research*, *37*(5), 644-673. https://doi.org/10.1177/009365021 0362688

Dailey, R. M., Romo, L. K., & McCracken, A. A. (2010b). Messages about weight management: An examination of how acceptance and challenge are related to message effectiveness. *Western Journal of Communication*, *74*, 457-483. https://doi.org/10.1080/10570314.20 10.5122

Dailey, R., Romo, L., Myer, S., Thomas, C., Aggarwal, S., Nordby, K., ... & Dunn, C. (2018). The buddy benefit: Increasing the effectiveness of an employee-targeted weight-loss program. *Journal of Health Communication*, *23*(3), 272-280. https://doi.org/10.1080 /10810730.2018.1436622

Dailey, R. M., Romo, L. K., & Thompson, C. M. (2011). Confirmation in couples' communication about weight management: An analysis of how both partners contribute to individuals' health behaviors and conversational outcomes. *Human Communication Research*, *37*(4), 553-582. https://doi.org/10.1111/j.1468-2958.2011.01414.x

Dailey, R. M., Thompson, C. M., & Romo, L. K. (2014). Mother-teen communication about weight management. *Health Communication*, *29*(4), 384-397. https://doi.org/10.1080/10410236.2012.759052

Davila, J., Hershenberg, R., Feinstein, B. A., Gorman, K., Bhatia, V., & Starr, L. R. (2012). Frequency and quality of social networking among young adults: Associations with depressive symptoms, rumination, and corumination. *Psychology of Popular Media Culture*, *1*(2), 72-86. https://doi.org/10.1037/a0027512

Dickson, K. S., Ciesla, J. A., & Reilly, L. C. (2012). Rumination, worry, cognitive avoidance, and behavioral avoidance: Examination of temporal effects. *Behavior Therapy*, *43*(3), 629-640. https://doi.org/10.1016/j.beth.2011.11.002

Dindia, K. & Allen, M. (1992). Sex differences in self-disclosure: A meta-analysis. *Psychological Bulletin*, *112*, 106-124. https://doi.org/10.1037/0033-2909.112.1.106

Dixon-Gordon, K. L., Aldao, A., & De Los Reyes, A. (2015). Emotion regulation in context: Examining the spontaneous use of strategies across emotional intensity and type of emotion. *Personality and Individual Differences*, *86*, 271-276. https://doi.org/10.1016/j.paid.2015.06.011

Eisma, M. C., Schut, H. A., Stroebe, M. S., Boelen, P. A., van den Bout, J., & Stroebe, W. (2015). Adaptive and maladaptive rumination after loss: A three□wave longitudinal study.

British Journal of Clinical Psychology, *54*(2), 163-180. https://doi.org/10.1111/bjc.12067

Ellis, K. (2002). Perceived parental confirmation: Development and validation of an instrument. *Southern Journal of Communication*, *67*(4), 319-334. https://doi.org/10.1080/10417940209373242

Ellis, W. E., Dumas, T. M., & Forbes, L. M. (2020). Physically isolated but socially connected: Psychological adjustment and stress among adolescents during the initial COVID-19 crisis. *Canadian Journal of Behavioural Science*, *52*(3), 177-187. https://doi.org/

10.1037/cbs0000215

Ettman, C. K., Abdalla, S. M., Cohen, G. H., Sampson, L., Vivier, P. M., & Galea, S. (2020). Prevalence of depression symptoms in US adults before and during the COVID-19 pandemic. *JAMA Network*, *3*(9). https://doi.org/10.1001/jamanetworkopen.2020.19686

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavioral Research Methods*, *41*, 1149-1160. https://doi.org/10.3758/BRM.41.4.1149 PMID: 19897823

Felix, E. D., Afifi, T. D., Horan, S. M., Meskunas, H., & Garber, A. (2020). Why family communication matters: The role of co-rumination and topic avoidance in understanding post-disaster mental health. *Journal of Abnormal Child Psychology*, *48*(11), 1511-1524. https://doi.org/10.1007/s10802-020-00688-7

Felton, J. W., Cole, D. A., Havewala, M., Kurdziel, G., & Brown, V. (2019). Talking together, thinking alone: Relations among co-rumination, peer relationships, and rumination. *Journal of Youth and Adolescence*, *48*(4), 731-743. https://doi.org/10.1007/s10964-018-0937-z

First, M. J., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (2002). Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Research Version, Patient Edition. (SCIDI/NP). New York: Biometrics Research, New York State Psychiatric Institute.

Fitzpatrick, K. M., Drawve, G., & Harris, C. (2020). Facing new fears during the COVID-19 pandemic: The State of America's mental health. *Journal of Anxiety Disorders*, *75*. https://doi.org/10.1016/j.janxdis.2020.102291

Fullana, M. A., Hidalgo-Mazzei, D., Vieta, E., & Radua, J. (2020). Coping behaviors associated with decreased anxiety and depressive symptoms during the COVID-19 pandemic and lockdown. *Journal of Affective Disorders*, *275*, 80-81. https://doi.org/10 .1016/j.jad.2020 .06.027

Fydrich, T., Dowdall, D., & Chambless, D. L. (1992). Reliability and validity of the Beck

Anxiety Inventory. *Journal of Anxiety Disorders*, *6*(1), 55-61. https://doi.org/10. 1016/0887-6185(92)90026-4

Gabbiadini, A., Baldissarri, C., Durante, F., Valtorta, R. R., De Rosa, M., & Gallucci, M. (2020). Together apart: The mitigating role of digital communication technologies on negative affect during the COVID-19 outbreak in Italy. *Frontiers in Psychology*, *11*, 2763. https:// doi. org/10.3389/fpsyg.2020.554678

Grey, I., Arora, T., Thomas, J., Saneh, A., Tohme, P., & Abi-Habib, R. (2020). The role of perceived social support on depression and sleep during the COVID-19 pandemic. *Psychiatry Research*, *293*. https://doi.org/10.1016/j.psychres.2020.113452

Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology*, *39*(3), 281-291. https://doi.org/10.1017.S0048577201393198

Gross, J. J. (2014). Emotion regulation: Conceptual and empirical foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3-20). New York, NY:Guilford Press.

Gubler, D. A., Makowski, L. M., Troche, S. J., & Schlegel, K. (2020). Loneliness and well-being during the Covid-19 pandemic: Associations with personality and emotion regulation. *Journal of Happiness Studies*, 1-20. https://doi.org/10.1007/s10902-020-00326-5

Hankin, B. L., Stone, L., & Wright, P. A. (2010). Corumination, interpersonal stress generation, and internalizing symptoms: Accumulating effects and transactional influences in a multiwave study of adolescents. *Development and Psychopathology*, *22*(1), 217-235. https://doi.org/10.1017/S09545794099 90368

Hankin, B. L., Young, J. F., Gallop, R., & Garber, J. (2018). Cognitive and interpersonal vulnerabilities to adolescent depression: Classification of risk profiles for a personalized prevention approach. *Journal of Abnormal Child Psychology*, *46*(7), 1521-1533. https://

doi.org/10.1007/s10802-018-0401-2

Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases*, *10*(7), 1206-1212. https://doi.org/10.3201/eid1007.030703

Hofmann, S. G., & Kashdan, T. B. (2010). The Affective Style Questionnaire: development and psychometric properties. *Journal of Psychopathology and Behavioral Assessment*, *32*(2), 255-263. https://doi.org/10.1007/s10862-009-9142-4

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., ... & Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet Psychiatry*, *7*(6), 547-560. https://do i.org/10.1 016/S2215-0366(20)30168-1

Holmstrom, A. J., & Burleson, B. R. (2011). An initial test of a cognitive-emotional theory of esteem support messages. *Communication Research*, *38*(3), 326-355. https://doi.org/10 .11 77/0093650 210376191

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, *10*(2), 227-237. https://doi.org/10.1177/1745691614568352

Hong, W., Liu, R. D., Ding, Y., Fu, X., Zhen, R., & Sheng, X. (2020). Social media exposure and college students' mental health during the outbreak of CoViD-19: The mediating role of rumination and the moderating role of mindfulness. *Cyberpsychology, Behavior, and Social Networking*, *00*, 1-6. https://doi.org/10.1089/cyber.2020.0387

Horn, A. B., & Maercker, A. (2016). Intra-and interpersonal emotion regulation and adjustment symptoms in couples: The role of co-brooding and co-reappraisal. *BMC Psychology*, *4*(1) 1-11. https://doi.org/10.1186/s40359-016-0159-7

Hruska, L. C., Zelic, K. J., Dickson, K. S., & Ciesla, J. A. (2017). Adolescents' co□rumination and stress predict affective changes in a daily□diary paradigm. *International Journal of Psychology*, *52*(5), 372-380. https://doi.org/10.1002/ijop.12227

Hughes, D. J., Kratsiotis, I. K., Niven, K., & Holman, D. (2020). Personality traits and emotion regulation: A targeted review and recommendations. *Emotion*, *20*(1), 63. https://doi .org/10.1037/emo0000644

Ingram, R. E., & Hamilton, N. A. (1999). Evaluating precision in the social psychological assessment of depression: Methodological considerations, issues, and recommendations. *Journal of Social and Clinical Psychology*, *18*(2), 160-180. https://doi.org/10.1521/jscp.1999.18.2.160

Ingram, R. E., & Wisnicki, K. (1999). Situational specificity of self-focused attention in dysphoric states. *Cognitive Therapy and Research, 23*(6), 626-635. https://doi.org/ 10.1023/A:1018736808385

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory: Versions 4a and 54*. Berkeley, CA: Institute of Personality and Social Research, University of California.

Joormann, J., & Gotlib, I. H. (2010). Emotion regulation in depression: Relation to cognitive inhibition. *Cognition and Emotion*, *24*, 281-298. https://doi.org/10.10 80/02699930903 407948

Joormann, J. Levens, S. M., & Gotlib, I. H. (2011). Sticky thoughts: Depression and rumination are associated with difficulties manipulating emotional material in working memory. *Psychological Science*, *22*(8), 979-983. https://doi.org/10.1177/0956797611415539

Joormann, J., & Vanderlind, W. M. (2014). Emotion regulation in depression: The role of biased cognition and reduced cognitive control. *Clinical Psychological Science*, *2*(4), 402-421. https://doi.org/10.177/2167702614536163

Kendall, P. C., Hollon, S. D., Beck, A. T., Hammen, C. L., & Ingram, R. E. (1987). Issues and recommendations regarding use of the Beck Depression Inventory. *Cognitive Therapy and Research*, *11*(3), 289-299. https://doi.org/10.1007/BF01186280

Kessler, R. C., & Wang, P. S. (2009). Epidemiology of depression. In I. H. Gotlib, & C. L. Hammen (Eds.), *Handbook of depression* (2nd ed., pp. 264-275). New York: Guilford Press.

Kneeland, E. T., Goodman, F. R., & Dovidio, J. F. (2020). Emotion beliefs, emotion regulation, and emotional experiences in daily life. *Behavior Therapy*, *51*(5), 728-738. https://doi .org/10.1016/j.beth.2019.10.007

Koole, S. L. (2009). The psychology of emotion regulation: An integrative review. *Cognition and Emotion*, *23*(1), 4-41. https://doi.org/10.1080/02699930802619031

Kross, E., Ayduk, O., & Mischel, W. (2005). When asking "why" does not hurt: Distinguishing rumination from reflective processing of negative emotions. *Psychological Science*, *16*(9), 709-715. https://doi.org/10.1111/j.1467-9280.2005.01600.x

Kroska, E. B., Roche, A. I., Adamowicz, J. L., & Stegall., M. S. (2020). Psychological flexibility in the context of COVID-19 adversity: Associations with distress. *Journal of Contextual Behavioral Science*, *18*, 28-33. https://doi.org/10.1016/j.jcbs.2020.07.011

Kuehner, C., & Weber, I. (1999). Responses to depression in unipolar depressed patients: An investigation of Nolen-Hoeksema's response styles theory. *Psychological Medicine*, *29*(6), 1323-1333. https://doi.org/10.1017/s0033291799001282

Lannoy, S., Heeren, A., Rochat, L., Rossignol, M., Van der Linden, M., & Billieux, J. (2014). Is there an all-embracing construct of emotion reactivity? Adaptation and validation of the emotion reactivity scale among a French-speaking community sample. *Comprehensive Psychiatry*, *55*(8), 1960-1967. https://doi.org/10.1016/j.comppsych.2014.07.023

Liverant, G. I., Kamholz, B. W., Sloan, D. M., & Brown, T. A. (2011). Rumination in clinical depression: A type of emotional suppression? *Cognitive Therapy and Research*, *35*(3), 253-265. https://doi.org/10.1007/s10608-010-9304-4

Lubin, B., Zuckerman, M., & Woodward, L. (1985). Bibliography for the Multiple Affect Adjective Checklist. San Diego, CA: Educational and Industrial Testing Service.

Lyubomirsky, S., Tucker, K. L., Caldwell, N. D., & Berg, K. (1999). Why ruminators are poor problem solvers: Clues from the phenomenology of dysphoric rumination. *Journal of Personality and Social Psychology*, *77*, 1041-1060. https://doi.org/10.1037/0022-3514.77.5.1041

MacLeod, A. K., Rose, G. S., & Williams, J. M. G. (1993). Components of hopelessness about the future in parasuicide. *Cognitive Therapy and Research*, *17*, 441–455. https://doi.org /10.1007/BF01173056

Marroquín, B., Vine, V., & Morgan, R. (2020). Mental health during the COVID-19 pandemic: Effects of stay-at-home policies, social distancing behavior, and social resources. *Psychiatry Research*, *293*. https://doi.org/10.1016/j.psychres.2020.113419

Martell, C. R., Addis, M. E., & Jacobson, N. S. (2001). *Depression in context: Strategies for guided action*. WW Norton & Co.

McCrae, R. R., Kurtz, J. E., Yamagata, S., & Terracciano, A. (2011). Internal consistency, retest reliability, and their implications for personality scale validity. *Personality and Social Psychology Review*, *15*(1), 28-50. https://doi.org/10.1177/1088868310366253

McGinty, E. E., Presskreischer, R., Anderson, K. E., Han, H., & Barry, C. L. (2020). Psychological distress and covid-19–related stressors reported in a longitudinal cohort of US adults in April and July 2020. *Journal of the American Medical Association*, *324*(24), 2555-2557. https://doi.org/10.1001/jama.2020.21231

McGrail, D. J., Dai, J., McAndrews, K. M., & Kalluri, R. (2020). Enacting national social distancing policies corresponds with dramatic reduction in COVID19 infection rates. *PloS One*, *15*(7). https://doi.org/10.1371/journal.pone.0236619

Miller, M. E., Borowski, S., & Zeman, J. L. (2020). Co-rumination moderates the relation between emotional competencies and depressive symptoms in adolescents: A longitudinal examination. *Journal of Abnormal Child Psychology*, *48*(6), 851-863. https://doi.org/10.1007/s10802-020-00643-6

Moore, M. T., & Brown, T. A. (2012). Are there meaningful differences between major depressive disorder, dysthymic disorder, and their subthreshold variants? *The Journal of Nervous and Mental Disease*, *200*(9), 766-772. https://doi.org/10.1097/NMD.0b013e318266ba3f

Mor, N., & Winquist, J. (2002). Self-focused attention and negative affect: A meta-analysis. *Psychological Bulletin*, *128*(4), 638-662. https://doi.org/10.1037//0033-2909.128.4.638

Moreira, J. F. G., Miernicki, M. E., & Telzer, E. H. (2016). Relationship quality buffers association between co-rumination and depressive symptoms among first year college students. *Journal of Youth and Adolescence*, *45*(3), 484-493. https://doi.org/10.1007/s10964-015-0396-8

Moulds, M. L., Kandris, E., Starr, S., & Wong, A. C. (2007). The relationship between rumination, avoidance and depression in a non-clinical sample. *Behaviour Research and Therapy*, *45*(2), 251-261. https://doi.org/10.1016/j.brat.2006.03.003

Müller, F., Hagedoorn, M., Soriano, E. C., Stephenson, E., Smink, A., Hoff, C., ... & Tuinman, M. A. (2019). Couples' catastrophizing and co-rumination: Dyadic diary study of patient fatigue after cancer. *Health Psychology*, *38*(12), 1096-1106. https://doi.org/10.1037/hea0000803

Murdock, K. K., Gorman, S., & Robbins, M. (2015). Co-rumination via cellphone moderates the association of perceived interpersonal stress and psychosocial well-being in emerging adults. *Journal of Adolescence*, *38*, 27-37. https://doi.org/ 10.1016/j.adolescence.2014.10.010

Muris, P., van der Pennen, E., Sigmond, R., & Mayer, B. (2008). Symptoms of anxiety, depression, and aggression in non-clinical children: Relationships with self-report and performance-based measures of attention and effortful control. *Child Psychiatry and Human Development*, *39*(4), 455-467. https://doi.org/10.1007/s10578-008-0101-1

Neff, K. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity*, *2*(2), 85-101. https://doi.org/10.1080/15298860309032

Nicolai, K. A., Laney, T., & Mezulis, A. H. (2013). Different stressors, different strategies, different outcomes: How domain-specific stress responses differentially predict depressive symptoms among adolescents. *Journal of Youth and Adolescence*, *42*, 1183-1193. https://doi.org/10.1007/s10964-012-9866-4

Nock, M. K., Wedig, M. M., Holmberg, E. B., & Hooley, J. M. (2008). The emotion reactivity scale: Development, evaluation, and relation to self-injurious thoughts and behaviors. *Behavior Therapy*, *39*(2), 107-116. https://doi.org/10.1016/j.beth.2007.05.005

Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, *100*(4), 569-582. https://doi.org/10.1037/0021-843X.100.4.569

Nolen-Hoeksema, S., & Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: The 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology, 61*(1), 115-121. https://doi.org/10.1037/0022-3514.61.1.115

Nolen-Hoeksema, S., Wisco, B. E., & Lyubomirsky, S. (2008). Rethinking rumination. *Perspectives on Psychological Science*, *3*, 400-424. https://doi.org/10.1111/j.1745-6924.200 8.00088.x

Ormel, J., Jeronimus, B. F., Kotov, R., Riese, H., Bos, E. H., Hankin, B., ... & Oldehinkel, A. J. (2013). Neuroticism and common mental disorders: Meaning and utility of a complex relationship. *Clinical Psychology Review*, *33*(5), 686-697. https://doi.org/10.1016/j.cp r.2013.04.003

Ottenbreit, N. D., & Dobson, K. S. (2004). Avoidance and depression: The construction of the Cognitive-Behavioral Avoidance Scale. *Behaviour Research and Therapy*, *42*(3), 293-313. https://doi.org/10.1016/S0005-7967(03)00140-2

Pfefferbaum, B., Schonfeld, D., Flynn, B. W., Norwood, A. E., Dodgen, D., Kaul, R. E., ... & Ruzek, J. I. (2012). The H1N1 crisis: A case study of the integration of mental and behavioral health in public health crises. *Disaster Medicine and Public Health Preparedness*, *6*(1), 67-71. https://doi.org/10.1001/dmp.2012.2

Pratscher, S. D., Rose, A. J., Markovitz, L., & Bettencourt, A. (2018). Interpersonal mindfulness: Investigating mindfulness in interpersonal interactions, co-rumination, and friendship quality. *Mindfulness*, *9*(4), 1206-1215. https://doi.org/10.1007/s12671-017-0859-y

Quigley, L., & Dobson, K. S. (2014). An examination of trait, spontaneous and instructed emotion regulation in dysphoria. *Cognition & Emotion*, *28*(4), 622-635. https://doi.org/1 0.1 080/ 02699931.2013.848786

Raes, F. (2011). The effect of self-compassion on the development of depression symptoms in a non-clinical sample. *Mindfulness*, *2*(1), 33-36. https://doi.org/10.1007/s12671-011-0040-y

Rajkumar, R. P. (2020). COVID-19 and mental health: A review of the existing literature. *Asian*

Journal of Psychiatry, *52*. https://doi.org/10.1016/j.ajp.2020.102066

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, *41*(1), 203-212. https://doi.org/10.1016/j.jrp.2006.02.001

Roeder, A. C., Garner, J. T., & Carr, K. (2020). Workplace relationships, stress, and verbal rumination in organizations. *Southern Communication Journal*, *85*(2), 63-72. https://doi.org/10.1080/1041794X.2019.1697893

Roehrig, M., Thompson, J. K., & Cafri, G. (2008). Effects of dieting□related messages on psychological and weight control variables. *International Journal of Eating Disorders*, *41*(2), 164-173. https://doi.org/10.1002/eat.20470

Roelofs, J., Huibers, M., Peeters, F., Arntz, A., & van Os, J. (2008). Rumination and worrying as possible mediators in the relation between neuroticism and symptoms of depression and anxiety in clinically depressed individuals. *Behaviour Research and Therapy*, *46*(12), 1283-1289. https://doi.org/10.1016/j.brat.2008.10.002

Roelofs, J., Muris, P., Huibers, M., Peeters, F., & Arntz, A. (2006). On the measurement of rumination: A psychometric evaluation of the ruminative response scale and the rumination on sadness scale in undergraduates. *Behavior Therapy and Experimental Psychiatry*, *37*(4), 299-313. doi:10.1016/j.jbtep.2006.03.002

Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development*, *73*(6), 1830-1843. https://doi.org/10.1111/1467-8624.00509

Rose, A. J., Carlson, W., & Waller, E. M. (2007). Prospective associations of co-rumination with friendship and emotional adjustment: Considering the socioemotional trade-offs of co-rumination. *Developmental Psychology*, *43*, 1019-1031. https://doi.org/10.1037/0012-1649.43.4 .1019

Rose, A. J., Glick, G. C., Smith, R. L., Schwartz-Mette, R. A., & Borowski, S. K. (2017). Co-rumination exacerbates stress generation among adolescents with depressive symptoms. *Journal of Abnormal Child Psychology*, *45*(5), 985-995. https://doi.org/10.1007/s10802-016-0205-1

Rose, A. J., Schwartz-Mette, R., Glick, G. C., Smith, R. L., & Luebbe, A. M. (2014). An observational study of co-rumination in adolescent friendships. *Developmental Psychology*, *50*, 2199-2209. https://doi.org/10.1037/a0037465

Rubin-Falcone, H., Weber, J., Kishon, R., Ochsner, K., Delaparte, L., Doré, B., ... & Miller, J. M. (2020). Neural predictors and effects of cognitive behavioral therapy for depression: The role of emotional reactivity and regulation. *Psychological Medicine*, *50*(1), 146-160. https://doi.org/10.1007/s11469-020-00322-z

Saltzman, L. Y., Hansel, T. C., & Bordnick, P. S. (2020). Loneliness, isolation, and social support factors in post-COVID-19 mental health. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(1), 55-57. https://doi.org/10.1037/tra0000703

Sarin, S., Abela, J. Z., & Auerbach, R. P. (2005). The response styles theory of depression: A test of specificity and causal mediation. *Cognition and Emotion*, *19*, 751-761. https://doi. org/10.1080/026999304 41000463

Satici, B., Saricali, M., Satici, S. A., & Griffiths, M. D. (2020). Intolerance of uncertainty and mental wellbeing: Serial mediation by rumination and fear of COVID-19. *International Journal of Mental Health and Addiction*, *1*, 1-12. https://doi. org/10.1007/s11469-020-00305-0

Schindler, S., & Querengässer, J. (2019). Coping with sadness-How personality and emotion regulation strategies differentially predict the experience of induced emotions. *Personality and Individual Differences*, *136*, 90-95. https://doi.org/10.1016/j.paid .2018.01.050

Schrodt, P., Ledbetter, A. M., & Ohrt, J. K. (2007). Parental confirmation and affection as mediators of family communication patterns and children's mental well-being. *The Journal of Family Communication*, *7*(1), 23-46. https://doi.org/10.1080/15267430 709336667

Schug, J., Yuki, M., & Maddux, W. (2010). Relational mobility explains between-and within-culture differences in self-disclosure to close friends. *Psychological Science*, *21*(10), 1471-1478. https://doi.org/10.1177/0956797610382786

Schwartz-Mette, R. A., & Rose, A. J. (2012). Co-rumination mediates contagion of internalizing symptoms within youths' friendships. *Developmental Psychology*, *48*(5), 1355-1365. https://doi.org/10.1037/a0027484

Schwartz-Mette, R. A., & Smith, R. L. (2018). When does co-rumination facilitate depression contagion in adolescent friendships? Investigating intrapersonal and interpersonal factors. *Journal of Clinical Child & Adolescent Psychology*, *47*(6), 912-924. https://doi.org/10.10 80/15374416.2016.1197837

Shapero, B. G., Abramson, L. Y., & Alloy, L. B. (2016). Emotional reactivity and internalizing symptoms: Moderating role of emotion regulation. *Cognitive Therapy and Research*, *40*(3), 328-340. https://doi.org/10.1007/s10608-015-9722-4

Sheppes, G., & Levin, Z. (2013). Emotion regulation choice: Selecting between cognitive regulation strategies to control emotion. *Frontiers in Human Neuroscience*, *7*, 179-185. https://doi.org/10.3389/fnhum.2013.00179

Sheppes, G., Scheibe, S., Suri, G., & Gross, J. J. (2011). Emotion-regulation choice. *Psychological Science*, *22*(11), 1391-1396. https://doi.org/10.1177/0956797611418350

Silk, J. S., Steinberg, L., & Morris, A. S. (2003). Adolescents' emotion regulation in daily life: Links to depressive symptoms and problem behavior. *Child Development*, *74*(6), 1869-1880. https://doi.org/10.1046/j.1467-8624.2003.00643.x

Smith, K. E., Hayes, N. A., Styer, D. M., & Washburn, J. J. (2017). Emotional reactivity in a clinical sample of patients with eating disorders and nonsuicidal self-injury. *Psychiatry Research*, *257*, 519-525. https://doi.org/10.1016/j.psychres.2017.08.014

Smith, R. L., & Rose, A. J. (2011). The “cost of caring” in youths’ friendships: Considering associations among social perspective-taking, co-rumination, and empathetic distress. *Developmental Psychology*, *47*(6), 1792-1803. https://doi.org/10.1037/a0025309

Starr, L. R. (2015). When support seeking backfires: Co-rumination, excessive reassurance seeking, and depressed mood in the daily lives of young adults. *Journal of Social and Clinical Psychology*, *34*, 436-457. https://doi.org/10.1521/jscp.2015.34.5.436

Stone, L. B., & Gibb, B. E. (2015). Preliminary evidence that co-rumination fosters adolescents' depression risk by increasing rumination. *Journal of Adolescence*, *38*, 1-4. https://doi.o rg/1 0.1016/j.adolescence.2014.10.008

Stone, L. B., Hankin, B. L., Gibb, B. E., & Abela, J. R. Z. (2011). Co-rumination predicts the onset of depressive disorders during adolescence. *Journal of Abnormal Psychology*, *120*, 752-757. https://doi.org/10.1037/a0023384

Stone, L. B., Mennies, R. J., Waller, J. M., Ladouceur, C. D., Forbes, E. E., Ryan, N. D., ... & Silk, J. S. (2019). Help me feel better! Ecological momentary assessment of anxious youths' emotion regulation with parents and peers. *Journal of Abnormal Child Psychology*, *47*(2), 313-324. https://doi.org/10.1007/s10802-018-0454-2

Stone, L. B., Uhrlass, D. J., & Gibb, B. E. (2010). Co-rumination and lifetime history of depressive disorders in children. *Journal of Clinical Child and Adolescent Psychology*, *39*, 597-602. https://doi.org/10.1080/15374416.2010.486323

Teasdale, J. D. (1988). Cognitive vulnerability to persistent depression. *Cognition and Emotion*, *2*(3), 247-274. https://doi.org/10.1080/02699938808410927

Thomas, E. J., Elliott, R., McKie, S., Arnone, D., Downey, D., Juhasz, G., & ... Anderson, I. M. (2011). Interaction between a history of depression and rumination on neural response to emotional faces. *Psychological Medicine*, *41*, 1845-1855. https://doi.org/10.10 17/S0033 29171 1000043

Tompkins, T. L., Hockett, A. R., Abraibesh, N., & Witt, J. L. (2011). A closer look at co-rumination: Gender, coping, peer functioning and internalizing/externalizing problems. *Journal of Adolescence*, *34*(5), 801-811. https://doi.org/10.1016/j.adolescence.2011.02.005

Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *27*, 247-259. https://doi.org/10.1023/ A:1023910315561

Vinograd, M., Williams, A., Sun, M., Bobova, L., Wolitzky-Taylor, K. B., Vrshek-Schallhorn, S., ... & Craske, M. G. (2020). Neuroticism and interpretive bias as risk factors for anxiety and depression. *Clinical Psychological Science*, *8*(4), 641-656. https://doi.org/10.1177/2167702620906145

Waller, E. M., & Rose, A. J. (2010). Adjustment trade-offs of co-rumination in mother-adolescent relationships. *Journal of Adolescence*, *33*(3), 487-497. https://doi.org/10.1016/j.adolescence.2009.06.002

Waller, J. M., Silk, J. S., Stone, L. B., & Dahl, R. E. (2014). Co-rumination and co–problem solving in the daily lives of adolescents with major depressive disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, *53*(8), 869-878. https://doi.org/10.1016/j.jaac.2014.05.004

Ward, A., Lyubomirsky, S., Sousa, L., & Nolen-Hoeksema, S. (2003). Can’t quite commit: Rumination and uncertainty. *Personality and Social Psychology Bulletin*, *29*(1), 96-107. https://doi.org/10.1177/0146167202238375

Watkins, E. R. (2016). *Rumination-focused cognitive-behavioral therapy for depression*. New York: Guilford Press.

Watzlawick, P., Beavin, J. H. & Jackson, D. D. (1967). *Pragmatics of human communication.* New York: Norton.

Werner-Seidler, A., Banks, R., Dunn, B. D., & Moulds, M. L. (2013). An investigation of the relationship between positive affect regulation and depression. *Behaviour Research and Therapy*, *51*(1), 46-56. https://doi.org/10.1016/j.brat.2012.11.001

White, M. E., & Shih, J. H. (2012). A daily diary study of co-rumination, stressful life events, and depressed mood in late adolescents. *Journal of Clinical Child and Adolescent Psychology*, *41*, 598-610. https://doi.org/10.1080/15374416.2012.706518

Wichstrøm, L., Holte, A., Husbey, R., & Wynne, L. C. (1994). Disqualifying family communication as a predictor of changes in offspring competence: A 3-year longitudinal study of sons of psychiatric patients. *Journal of Family Psychology*, *8*(1), 104-108.

Williams, W. C., Morelli, S. A., Ong, D. C., & Zaki, J. (2018). Interpersonal emotion regulation: Implications for affiliation, perceived support, relationships, and well-being. *Journal of Personality and Social Psychology*, *115*(2), 224-254. https://doi.org/10.1037/pspi0000 132

Wilson, S. R., Hall, E. D., Gettings, P. E., & Pastor, R. G. (2019). A multiple goals analysis of families attempting to encourage US service members to seek behavioral health care: Linking the GPA model and confirmation theory. *Communication Research*, *46*(4), 525-554. https://doi.org/10.1177/0093650215617507

Wood, A. M., & Tarrier, N. (2010). Positive clinical psychology: A new vision and strategy for integrated research and practice. *Clinical Psychology Review*, *30*(7), 819-829. https://doi .org/10.1016/j.cpr.2010.06.003

Ye, B., Wu, D., Im, H., Liu, M., Wang, X., & Yang, Q. (2020a). Stressors of COVID-19 and stress consequences: The mediating role of rumination and the moderating role of psychological support. *Children and Youth Services Review*, *118*. https://doi.org/10 .1016/j.childyouth.2020.105466

Ye, B., Zhou, X., Im, H., Liu, M., Wang, X. Q., & Yang, Q. (2020b). Epidemic rumination and resilience on college students' depressive symptoms during the COVID-19 pandemic: The mediating role of fatigue. *Frontiers in Public Health*, *8*, 33-39. https://doi.org/ 10.3389/fpubh.2020.560983

Zaki, J., & Williams, W. (2013). Interpersonal emotion regulation. *Emotion*, *13*, 803-810. https://doi.org/10.1037/ a0033839

Zalk, N., & Tillfors, M. (2017). Co-rumination buffers the link between social anxiety and depressive symptoms in early adolescence. *Child and Adolescent Psychiatry and Mental Health*, *11*(1), 1-12. https://doi.org/10.1186/s13034-017-0179-y

Zelic, K., Ciesla, J., Dickson, K., Hruska, L., & Ciesla, S. (2017). An experimental investigation of co-rumination, problem-solving, and distraction. *Behavior Therapy*, *48*, 403-412. https://doi.org/10.1016/j.bet h.2016.11.013

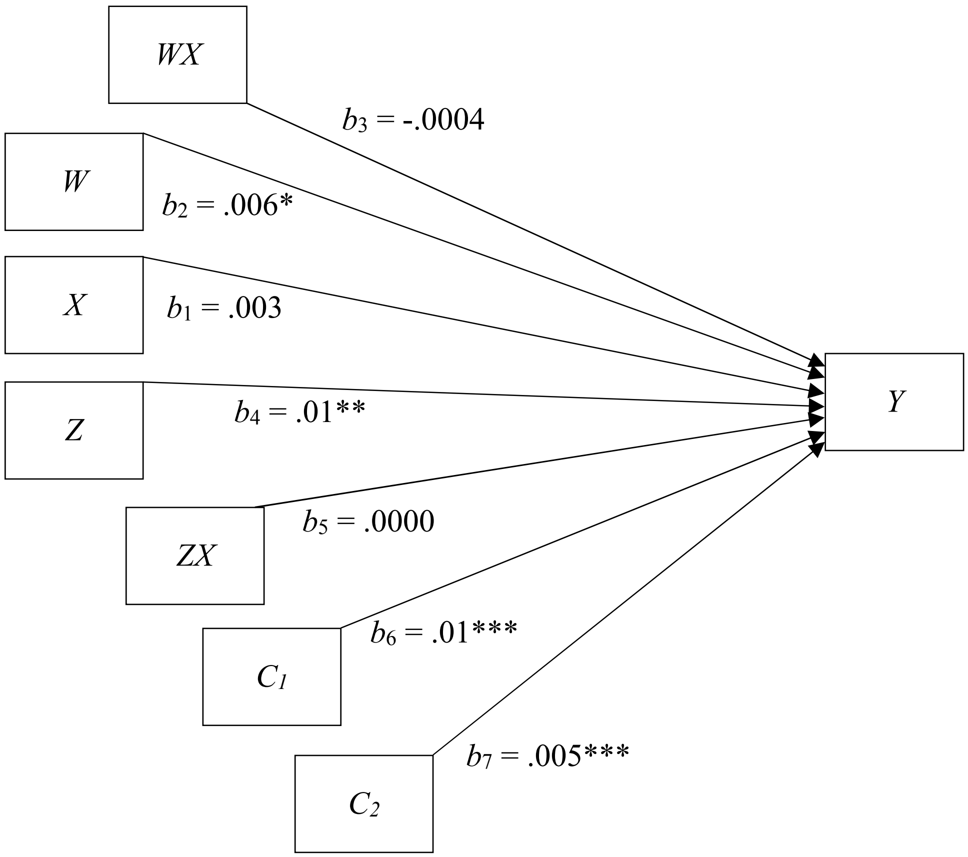
Zhou, Y., MacGeorge, E. L., & Myrick, J. G. (2020). Mental health and its predictors during the early months of the COVID-19 pandemic experience in the United States. *International Journal of Environmental Research and Public Health*, *17*(17), 1-19. https://doi.org/10.3 390/ijerph17176315

Zimmermann, P., & Iwanski, A. (2014). Emotion regulation from early adolescence to emerging adulthood and middle adulthood: Age differences, gender differences, and emotion-specific developmental variations. *International Journal of Behavioral Development*, *38*(2), 182-194. https://doi.org/10.1177/0165025413515405

Zuckerman, M., & Lubin, B. (1965). *Manual for the Multiple Affect Adjective Checklist*. San Diego, CA: Educational and Industrial Testing.

Figure 1

Moderation of Cognitive Nonsocial Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect

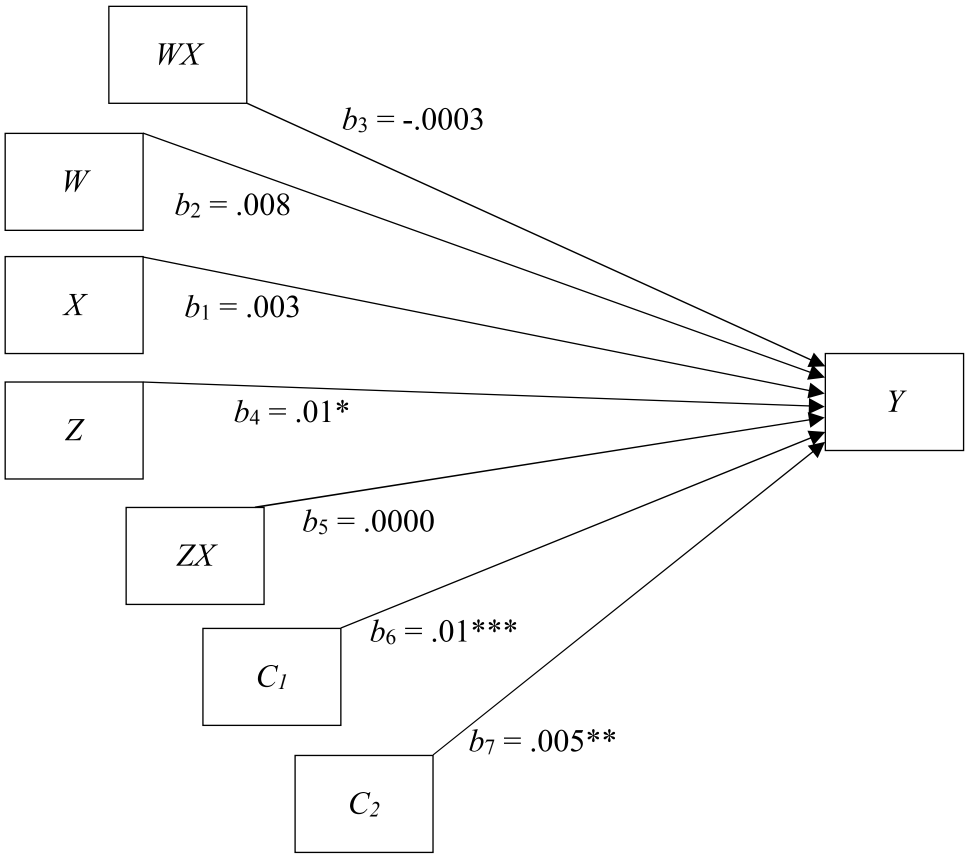


Note. *Y* = Beck Depression Inventory-I total score. *X* = Co-rumination Questionnaire co-brooding subscale score. *W* = Cognitive Behavioral Avoidance Scale's cognitive nonsocial avoidance subscale score. *Z* = Ruminative Response Scale total score. *WX* = interaction between the Cognitive Behavioral Avoidance Scale's cognitive nonsocial avoidance subscale score and Co-rumination Questionnaire co-brooding subscale score. *ZX* = interaction between the Ruminative Response Scale total score and the Co-rumination Questionnaire co-brooding subscale score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory.

*$p < .05$. **$p < .01$. ***$p < .001$.

Figure 2

Moderation of Behavioral Nonsocial Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect

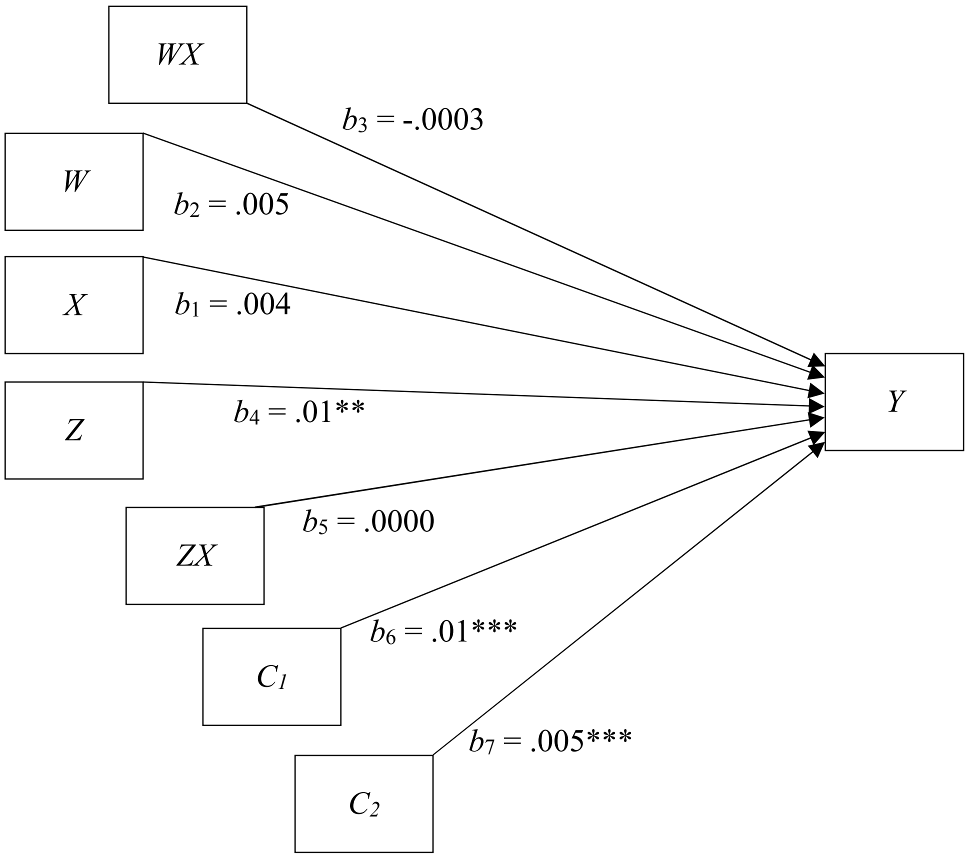


Note. *Y* = Beck Depression Inventory-I total score. *X* = Co-rumination Questionnaire co-brooding subscale score. *W* = Cognitive Behavioral Avoidance Scale's behavioral nonsocial avoidance subscale score. *Z* = Ruminative Response Scale total score. *WX* = interaction between the Cognitive Behavioral Avoidance Scale's behavioral nonsocial avoidance subscale score and the Co-rumination Questionnaire co-brooding subscale score. *ZX* = interaction between the Ruminative Response Scale total score and the Co-rumination Questionnaire co-brooding subscale score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory.

*$p < .05$. **$p < .01$. ***$p < .001$.

Figure 3

Moderation of Cognitive Social Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect

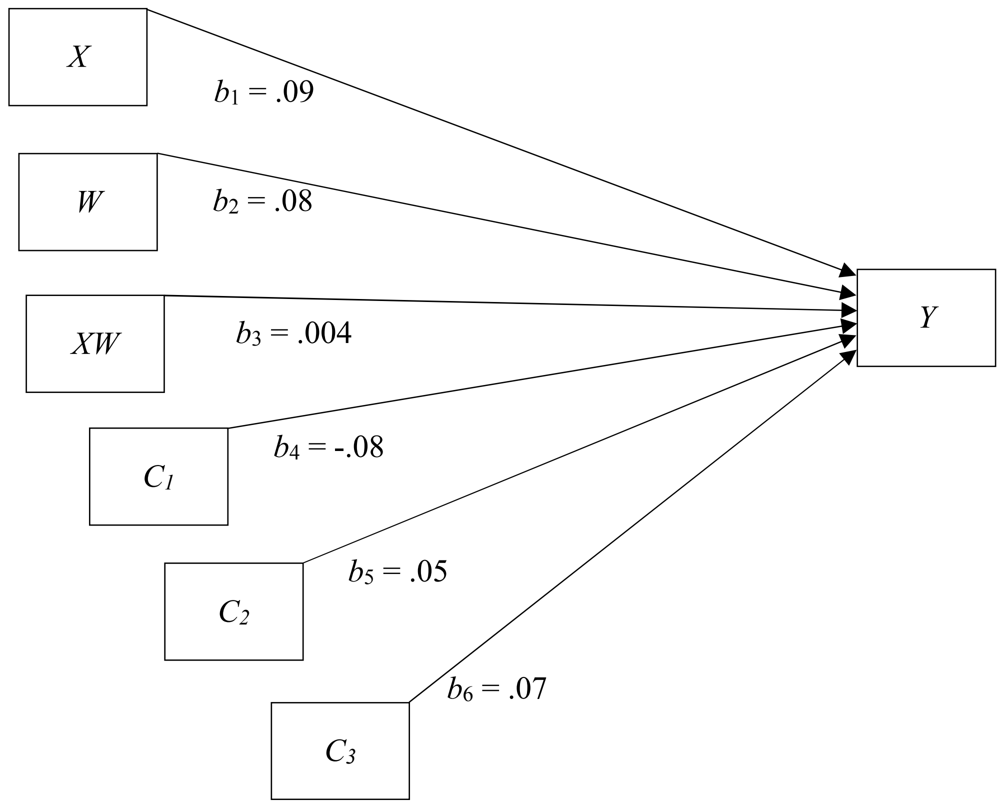


Note. *Y* = Beck Depression Inventory-I total score. *X* = Co-rumination Questionnaire co-brooding subscale score. *W* = Cognitive Behavioral Avoidance Scale's cognitive social avoidance subscale score. *Z* = Ruminative Response Scale total score. *WX* = interaction between the Cognitive Behavioral Avoidance Scale's cognitive social avoidance subscale score and the Co-rumination Questionnaire co-brooding subscale score. *ZX* = interaction between the Ruminative Response Scale total score and the Co-rumination Questionnaire co-brooding subscale score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory.

**$p < .01$. ***$p < .001$.

Figure 4

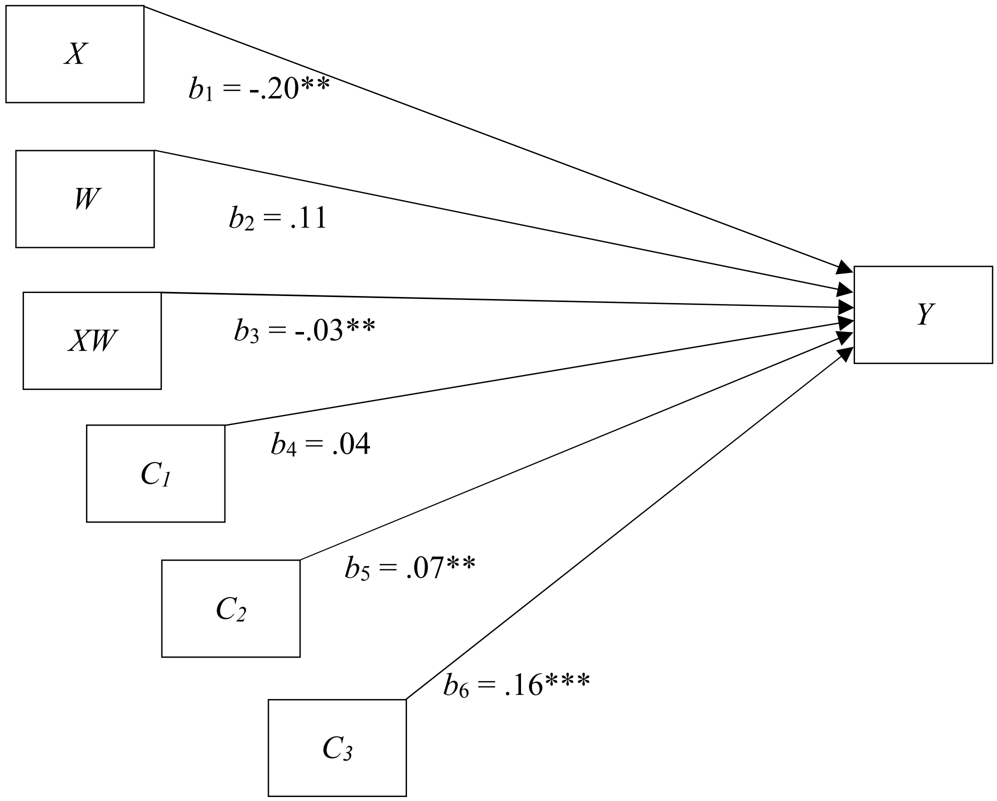
Moderation of Acceptance Statements on the Relationship between Challenge Statements and Co-brooding, Controlling for Current Affect



Note. *Y* = Co-rumination Questionnaire co-brooding subscale score. *X* = Challenge statements total score. *W* = Acceptance statements total score. *XW* = interaction between the Challenge statements total score and the Acceptance statements total score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Beck Depression Inventory-I.

Figure 5

Moderation of Acceptance Statements on the Relationship between Challenge Statements and Behavioral Nonsocial Avoidance, Controlling for Current Affect



Note. *Y* = Cognitive Behavioral Avoidance Scale's behavioral nonsocial avoidance subscale score. *X* = Challenge statements total score. *W* = Acceptance statements total score. *XW* = interaction between the Challenge statements total score and the Acceptance statements total score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Beck Depression Inventory-I.

$^{**}p < .01$. $^{***}p < .001$.

Figure 6

Visual Representation of the Conditional Effects of Challenge Statements on Behavioral Nonsocial Avoidance among those with Low, Average, and High Levels of Acceptance Statements Scores

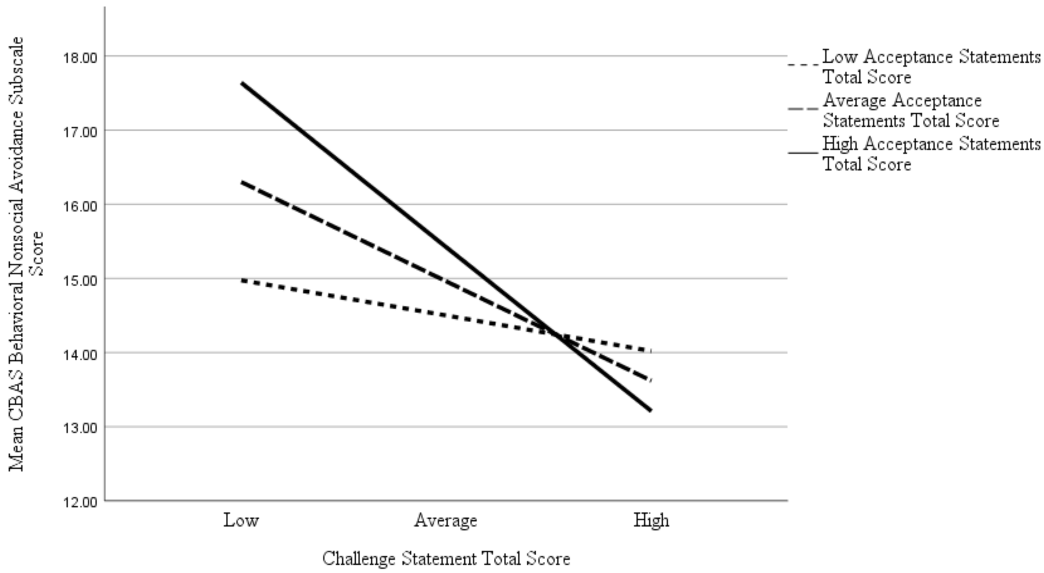
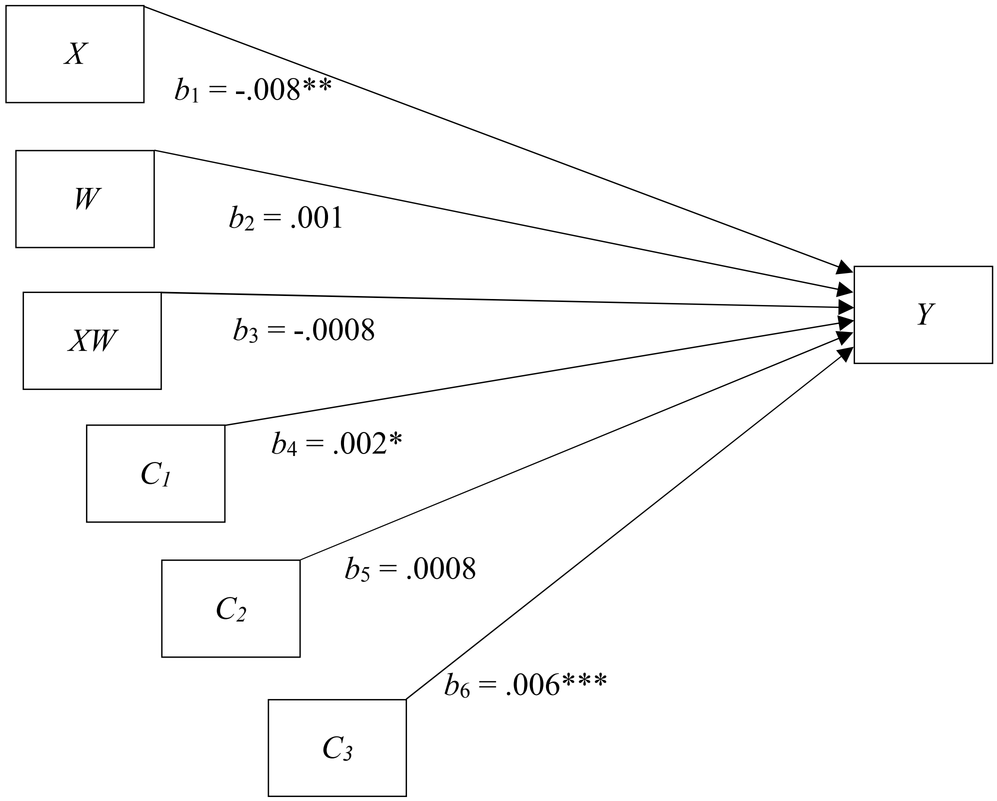


Figure 7

Moderation of Acceptance Statements on the Relationship between Challenge Statements and Cognitive Nonsocial Avoidance, Controlling for Current Affect

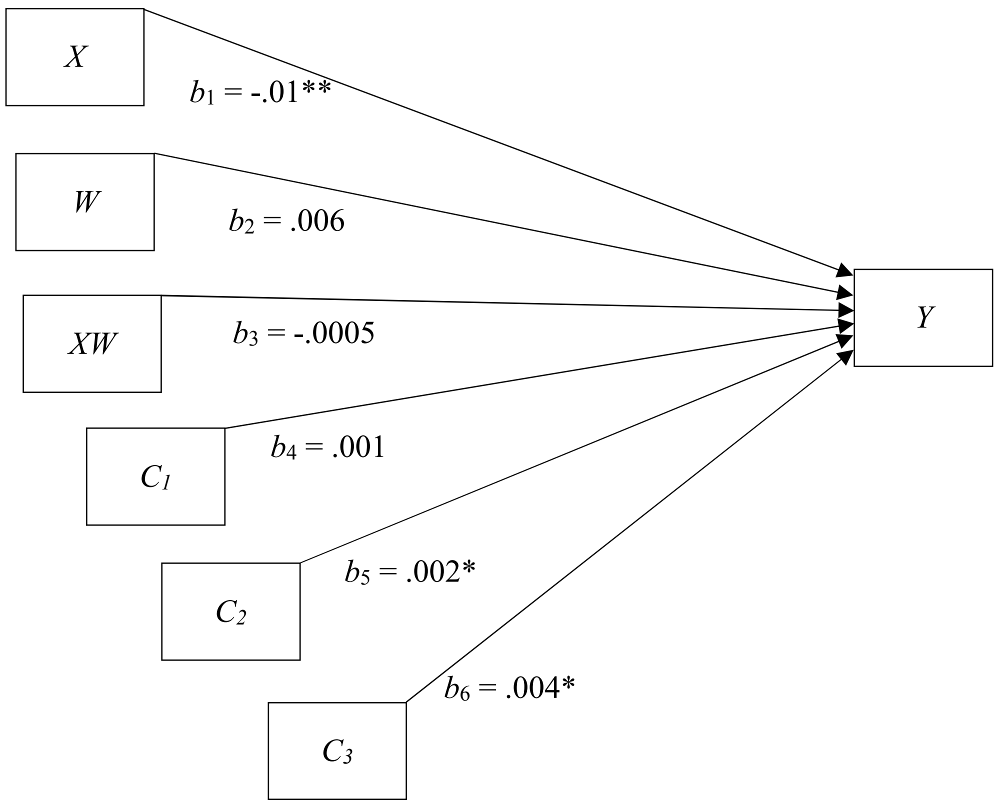


Note. *Y* = Cognitive Behavioral Avoidance Scale's cognitive nonsocial avoidance subscale score. *X* = Challenge statements total score. *W* = Acceptance statements total score. *XW* = interaction between the Challenge statements total score and the Acceptance statements total score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Beck Depression Inventory-I.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Figure 8

Moderation of Acceptance Statements on the Relationship between Challenge Statements and Cognitive Social Avoidance, Controlling for Current Affect

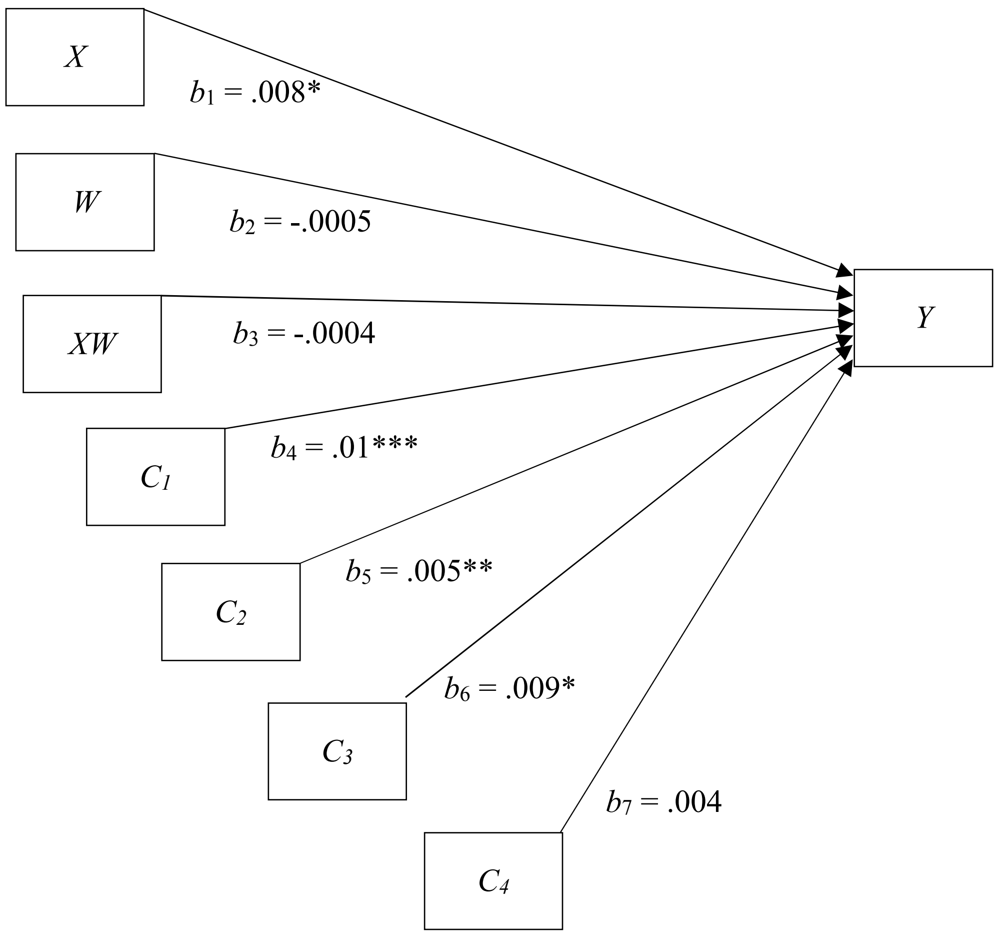


Note. Y = Cognitive Behavioral Avoidance Scale's cognitive social avoidance subscale score. X = Challenge statements total score. W = Acceptance statements total score. XW = interaction between the Challenge statements total score and the Acceptance statements total score. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Beck Depression Inventory-I.

*$p < .05$. **$p < .01$.

Figure 9

Moderation of Co-brooding on the Relationship between the Negative Impact of Covid-19 and Current Depressive Symptoms, Controlling for Current Affect, Intrapersonal Rumination, and Co-reflection

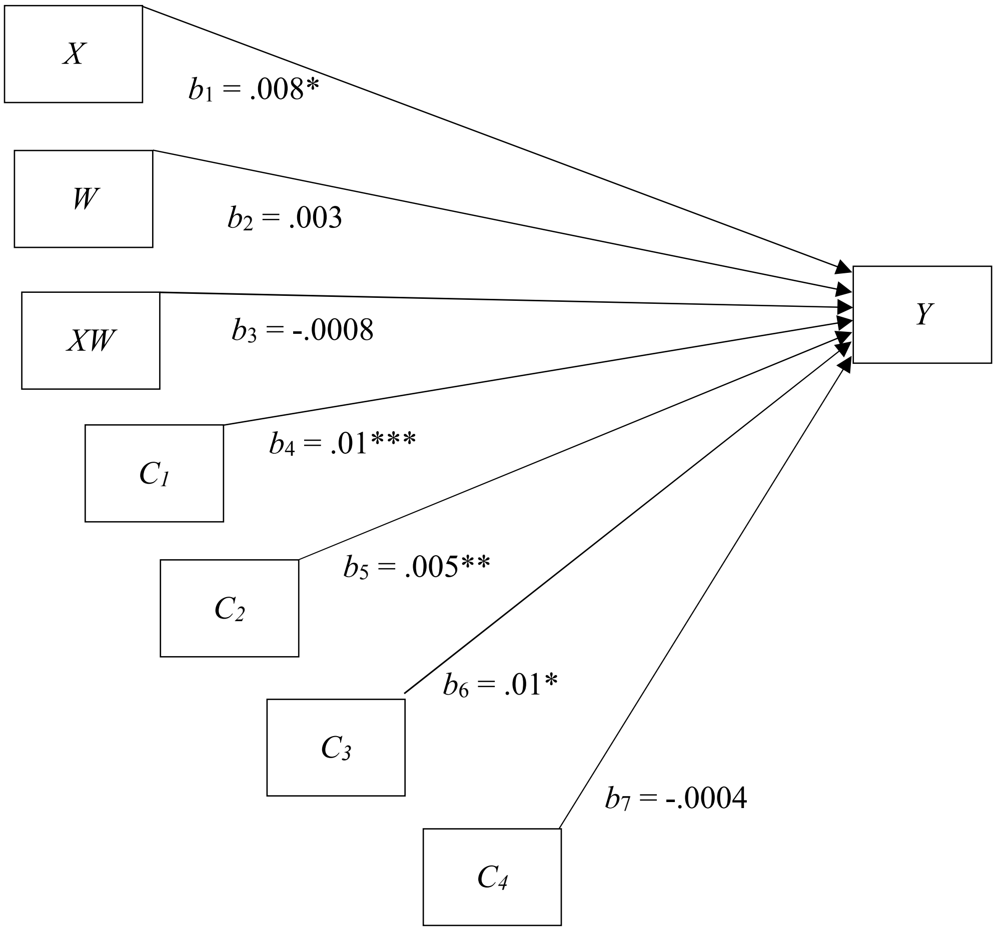


Note. *Y* = Beck Depression Inventory-I total score. *X* = Negative Impact of Covid-19 Questionnaire total score. *W* = Co-Rumination Questionnaire co-brooding subscale. *XW* = interaction between the Negative Impact of Covid-19 Questionnaire total score and Co-Rumination Questionnaire co-brooding subscale. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Ruminative Response Scale total score. C_4 = Co-Rumination Questionnaire co-reflection subscale.

*p < .05. **p < .01. *** p < .001

Figure 10

Moderation of Co-reflection on the Relationship between the Negative Impact of Covid-19 and Current Depressive Symptoms, Controlling for Current Affect, Intrapersonal Rumination, and Co-brooding



Note. Y = Beck Depression Inventory-I total score. X = Negative Impact of Covid-19 Questionnaire total score. W = Co-Rumination Questionnaire co-reflection subscale. XW = interaction between the Negative Impact of Covid-19 Questionnaire total score and Co-Rumination Questionnaire co-reflection subscale. C_1 = Multiple Affective Adjective List. C_2 = Beck Anxiety Inventory. C_3 = Ruminative Response Scale total score. C_4 = Co-Rumination Questionnaire co-brooding subscale.

*$p < .05$. **$p < .01$. *** $p < .001$

Table 1

Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. BDI-I	—																		
2. CRQ	.11	—																	
3. CRQ-CB	.11	.91***	—																
4. CRQ-CR	.12	.89***	.86***	—															
5. RRS	.41***	.38***	.35***	.33***	—														
6. RRS-B	.38***	.33***	.32***	.27***	.86***	—													
7. RRS-R	.32***	.33***	.29***	.31***	.86***	.49***	—												
8. BNA	.51***	.09	.12	.08	.34***	.40***	.19**	—											
9. CNA	.54***	.07	.10	.09	.24**	.29***	.13	.77***	—										
10. CSA	.46***	-.01	.02	-.02	.16*	.20**	.08	.65***	.76***	—									
11. ACC	-.05	.20**	.13	.23**	.13	.08	.14	-.07	-.15*	-.10	—								
12. CHA	-.07	.22**	.13	.23**	.13	.09	.14	-.21**	-.27***	-.30***	.66***	—							
13. ERS	.55***	.24**	.28***	.23**	.48***	.56***	.27**	.44***	.37***	.24**	-.04	-.01	—						

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
14. ASQ-T	-.28***	.22**	.17*	.20**	.11	-.01	.20**	-.23**	-.18*	-.28***	.16*	.21**	-.17*	—					
15. BAI	.55***	.14	.11	.10	.41***	.39***	.32***	.43***	.33***	.35***	-.05	-.03	.50***	-.14	—				
16. MAACL	.69***	-.05	-.02	-.05	.24**	.23**	.19**	.44***	.49***	.45***	-.15*	-.23**	.40***	-.36***	.43***	—			
17. BFI-N	.33***	.04	.07	.05	.37***	.40***	.23**	.38***	.29***	.27***	.01	-.09	.47***	-.31***	.38***	.32***	—		
18. Covid-19	.39***	.23**	.23**	.19**	.33***	.30***	.27***	.27***	.31***	.25**	.00	-.05	.26***	.03	.41***	.31***	.23**	—	
19. SCID	.45***	.11	.05	.07	.22*	.33**	.05	.26**	.25*	.17	-.04	-.03	.33**	-.18	.32**	.22*	.19*	.20	—

Note. BDI-I = Beck Depression Inventory-I; CRQ = Co-rumination Questionnaire total; CRQ-CB = Co-rumination Questionnaire brooding subscale; CRQ-CR = Co-rumination Questionnaire reflection subscale; RRS = Ruminative Response Scale total; RRS-B = Ruminative Response Scale brooding subscale; RRS-R = Ruminative Response Scale reflection subscale; BNA = Cognitive Behavioral Avoidance Scale behavioral nonsocial avoidance subscale; CNA = Cognitive Behavioral Avoidance Scale cognitive nonsocial avoidance subscale; CSA = Cognitive Behavioral Avoidance Scale cognitive social avoidance subscale; ACC = Acceptance Statements; CHA = Challenge Statements; ERS = Emotion Reactivity Scale total; ASQ-T = Affective Style Questionnaire tolerance subscale; BAI = Beck Anxiety Inventory; MAACL = Multiple Affective Adjective Checklist; BFI-N = Big Five Inventory-10 neuroticism subscale; Covid-19 = Covid-19 Negative Impact Questionnaire; SCID = Structured Clinical Interview for DSM-IV-TR Axis I Disorders, past depression.

*p <.05. **p < .01. ***p < .001

Table 2

Study Variables' Psychometric Properties

Scale	*n* [a]	*M*	*SD*	Cronbach's α
Beck Depression Inventory-I	188	11.79	9.14	.90
Co-Rumination Questionnaire total score	189	79.68	24.85	.96
Co-Rumination Questionnaire Co-Brooding	189	16.92	6.66	.92
Co-Rumination Questionnaire Co-Reflection	189	18.40	6.61	.93
Ruminative Response Scale total score	189	24.50	6.33	.83
Ruminative Response Scale Brooding	189	12.59	3.61	.78
Ruminative Response Scale Reflection	189	11.91	3.70	.77
Cognitive Behavioral Avoidance Behavioral Nonsocial Avoidance	186	14.49	4.86	.77
Cognitive Behavioral Avoidance Scale Cognitive Nonsocial Avoidance	184	21.33	8.86	.90
Cognitive Behavioral Avoidance Scale Cognitive Social Avoidance	184	14.38	6.63	.83
Acceptance Statements	188	23.03	4.13	.69
Challenge Statements	187	45.86	6.57	.77
Emotion Reactivity total score	182	24.54	14.65	.94
Affective Style Questionnaire Tolerance	188	16.69	3.88	.74
Beck Anxiety Inventory	175	17.00	14.05	.94
Multiple Affective Adjective Checklist	189	34.16	11.48	.91
Big Five Inventory-10 Neuroticism	189	6.91	1.91	.47 [b]
Covid-19 Negative Impact Questionnaire	179	12.08	5.60	.77

Structured Clinical Interview for DSM-IV-TR Axis I Disorders, past depression	101	7.66	1.15	.73
Scale	*n* [a]	*M*	*SD*	Cronbach's α

[a] A total of 189 participants were included in the final sample. All data were Missing Completely at Random (*p*s > .05), except for Challenge Statements (χ^2 (14, *N* = 189) = 39.00, *p* < .001). Specifically, one response was missing from the challenge statement, "When I talk to my friend about a problem that I have, my friend energizes me." Additionally, one response was missing from the challenge statement, "When I talk to my friend about a problem that I have, my friend deflates my motivation." Collectively, the two missing responses accounted for 1% of the missing data for Challenge Statements. Pairwise deletion was used in response to missing data to reduce the creation of error variance that arises from imputation methods, especially given the use of cutoff scores to designate dysphoric and nondysphoric groups. [b] Despite its well-known utility, greater α coefficients reflect more narrowed, overlapping content among measure items (McCrae et al., 2011). Thus, it is quite possible for a two-item scale assessing a broad construct to have a relatively low α coefficient but good construct validity (i.e., it efficiently captures important but only modestly-overlapping aspects of the construct).

Table 3

Sample Characteristics

Variable	Participants (*n* = 189)	Nondysphoric Participants (*n* = 90)	Dysphoric Participants (*n* = 57)
Age, *M* (*SD*)	19.53 (11.85)	18.72 (1.08)	18.58% (1.08)
Education (%)			
Freshman	77.2%	75.6%	84.2%
Sophomore	16.9%	17.8%	14.0%
Junior	4.8%	4.4%	1.8%
Senior	1.1%	2.2%	0.0%
Gender (% female)	67.7%	56.7%*	75.4%*
Ethnicity and Race (%)			
Hispanic	7.9%	10.0%	7.0%
Caucasian	78.3%	81.1%	80.7%
Black/African American	5.8%	1.1%*	8.8%*
Asian	12.7%	10.0%	12.3%
American Indian/ Native Alaskan	1.1%	0.0%	0.0%
Native Hawaiian/ Pacific Islander	0.0%	0.0%	0.0%
Other	1.6%	3.3%	0.0%
Prefer not to say	0.0%	0.0%	0.0%
Annual Household Income (%)			
Less than $30,000	14.3%	13.3%	12.3%
Between $30,001-$75,000	21.2%	17.8%	22.8%
Between $75,001-$100,000	22.2%	20.0%	29.8%
Over $100,000	42.3%	48.9%	35.1%

Table 4

Problem-Talk Modality

Variable [a]	Never	Sometimes	Often	Almost Always
Talking face-to-face (in person)	13.2%	24.3%	28.0%	34.4%
Talking on the phone	16.4%	36.0%	31.2%	16.4%
Texting on the phone	7.9%	29.1%	38.6%	24.3%
Streaming video	55.0%	19.6%	15.9%	9.5%
Facebook	94.7%	4.2%	1.1%	0.0%
Instagram	64.6%	21.7%	10.6%	3.2%
Twitter	87.8%	9.5%	2.6%	0.0%
Email	93.1%	5.3%	1.1%	.5%

[a] n = 189.

Table 5

Results from a Regression Analysis Examining the Moderation of Cognitive Nonsocial Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	.33	.07	4.24	<.001
CRQ Co-Brooding subscale (*X*)	b_1	.003	.00	1.17	.24
CBAS Cognitive Nonsocial Avoidance subscale (*W*)	b_2	.006	.00	2.36	.01
CRQ Co-Brooding subscale x CBAS Cognitive Nonsocial Avoidance subscale (*XW*)	b_3	-.0004	.00	1.32	.18
RRS total score (*Z*)	b_4	.01	.00	2.87	.004
CRQ Co-Brooding subscale x RRS total score (*XZ*)	b_5	.0000	.00	.01	.98
MAACL (C_1)	b_6	.01	.00	7.37	<.001
BAI (C_2)	b_7	.005	.00	3.52	<.001

Note. CRQ = Co-rumination Questionnaire. CBAS = Cognitive Behavioral Avoidance Scale. RRS = Ruminative Response Scale. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

Table 6

Results from a Regression Analysis Examining the Moderation of Behavioral Nonsocial Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	.29	.08	3.43	< .001
CRQ Co-Brooding subscale (*X*)	b_1	.003	.00	1.07	.28
CBAS Behavioral Nonsocial Avoidance subscale (*W*)	b_2	.008	.00	1.39	.16
CRQ Co-Brooding subscale x CBAS Behavioral Nonsocial Avoidance subscale (*XW*)	b_3	-.0003	.00	.42	.66
RRS total score (*Z*)	b_4	.01	.00	2.58	.01
CRQ Co-Brooding subscale x RRS total score (*XZ*)	b_5	.0000	.00	.08	.93
MAACL (C_1)	b_6	.01	.00	7.70	< .001
BAI (C_2)	b_7	.005	.00	3.19	.001

Note. CRQ = Co-rumination Questionnaire. CBAS = Cognitive Behavioral Avoidance Scale. RRS = Ruminative Response Scale. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

Table 7

Results from a Regression Analysis Examining the Moderation of Cognitive Social Avoidance and Rumination on the Relationship between Co-brooding and Current Depressive Symptoms, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	.29	.07	3.79	< .001
CRQ Co-Brooding subscale (*X*)	b_1	.004	.00	1.26	.20
CBAS Cognitive Social Avoidance subscale (*W*)	b_2	.005	.00	1.28	.20
CRQ Co-Brooding subscale x CBAS Cognitive Social Avoidance subscale (*XW*)	b_3	-.0003	.00	.69	.48
RRS total score (*Z*)	b_4	.01	.00	2.72	.007
CRQ Co-Brooding subscale x RRS total score (*XZ*)	b_5	.0000	.00	.08	.93
MAACL (C_1)	b_6	.01	.00	8.31	< .001
BAI (C_2)	b_7	.005	.00	3.58	< .001

Note. CRQ = Co-rumination Questionnaire. CBAS = Cognitive Behavioral Avoidance Scale. RRS = Ruminative Response Scale. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

Table 8

Results from a Regression Analysis Examining the Moderation of Acceptance Statements on the Relationship between Challenge Statements and Co-brooding, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	17.67	1.92	9.17	< .001
Challenge statements total score (*X*)	b_1	.09	.11	.85	.39
Acceptance statements total score (*W*)	b_2	.08	.17	.47	.63
Challenge statements total score x Acceptance statements total score (*XW*)	b_3	.004	.01	.23	.81
MAACL (C_1)	b_4	-.08	.06	1.19	.23
BAI (C_2)	b_5	.05	.04	1.13	.25
BDI-I (C_3)	b_6	.07	.08	.86	.39

Note. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

BDI-I = Beck Depression Inventory-I.

Table 9

Results from a Regression Analysis Examining the Moderation of Acceptance Statements on the Relationship between Challenge Statements and Behavioral Nonsocial Avoidance, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	10.17	.87	11.62	< .001
Challenge statements total score (*X*)	b_1	-.20	.06	2.97	.003
Acceptance statements total score (*W*)	b_2	.11	.10	1.06	.28
Challenge statements total score x Acceptance statements total score (*XW*)	b_3	-.03	.01	2.87	.004
MAACL (C_1)	b_4	.04	.02	1.51	.13
BAI (C_2)	b_5	.07	.02	2.73	.007
BDI-I (C_3)	b_6	.16	.04	3.46	< .001

Note. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

BDI-I = Beck Depression Inventory-I.

Table 10

Results from a Regression Analysis Examining the Moderation of Acceptance Statements on the Relationship between Challenge Statements and Cognitive Nonsocial Avoidance, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	1.11	.03	29.06	< .001
Challenge statements total score (*X*)	b_1	-.008	.00	2.86	.004
Acceptance statements total score (*W*)	b_2	.001	.00	.24	.80
Challenge statements total score x Acceptance statements total score (*XW*)	b_3	-.0008	.00	1.79	.07
MAACL (C_1)	b_4	.002	.00	1.99	.04
BAI (C_2)	b_5	.0008	.00	.76	.44
BDI-I (C_3)	b_6	.006	.00	4.10	<.001

Note. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory. BDI-I = Beck Depression Inventory-I.

Table 11

Results from a Regression Analysis Examining the Moderation of Acceptance Statements on the Relationship between Challenge Statements and Cognitive Social Avoidance, Controlling for Current Affect.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	.98	.03	25.80	< .001
Challenge statements total score (*X*)	b_1	-.01	.00	3.32	.001
Acceptance statements total score (*W*)	b_2	.006	.00	1.04	.29
Challenge statements total score x Acceptance statements total score (*XW*)	b_3	-.0005	.00	1.07	.28
MAACL (C_1)	b_4	.001	.00	1.37	.17
BAI (C_2)	b_5	.002	.00	2.18	.03
BDI-I (C_3)	b_6	.004	.00	2.38	.01

Note. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory.

BDI-I = Beck Depression Inventory-I.

Table 12

Results from a Regression Analysis Examining the Moderation of Co-brooding on the Relationship between the Negative Impact of Covid-19 and Current Depressive Symptoms, Controlling for Current Affect, Intrapersonal Rumination, and Co-reflection.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	-.04	.15	.25	.79
Negative Impact of Covid-19 total score (*X*)	b_1	.008	.00	2.15	.03
CRQ Co-Brooding subscale (*W*)	b_2	-.0005	.00	.08	.93
Negative Impact of Covid-19 total score x CRQ Co-Brooding subscale (*XW*)	b_3	-.0004	.00	.88	.37
MAACL (C_1)	b_4	.01	.00	8.30	< .001
BAI (C_2)	b_5	.005	.00	3.27	.001
RRS (C_3)	b_6	.009	.00	2.24	.02
CRQ Co-Reflection subscale (C_4)	b_7	.004	.00	.67	.49

Note. CRQ = Co-Rumination Questionnaire. MAACL = Multiple Affective Adjective List. BAI = Beck Anxiety Inventory. RRS = Ruminative Response Style total score.

Table 13

Results from a Regression Analysis Examining the Moderation of Co-reflection on the Relationship between the Negative Impact of Covid-19 and Current Depressive Symptoms, Controlling for Current Affect, Intrapersonal Rumination, and Co-brooding.

		Coefficient	*SE*	*t*	*p*
Constant	i_y	.03	.12	.27	.77
Negative Impact of Covid-19 total score (X)	b_1	.008	.00	2.16	.03
CRQ Co-Reflection subscale (W)	b_2	.003	.00	.68	.49
Negative Impact of Covid-19 total score x CRQ Co-Reflection subscale (XW)	b_3	-.0008	.00	1.66	.09
MAACL (C_1)	b_4	.01	.00	8.44	< .001
BAI (C_2)	b_5	.005	.00	3.35	.001
RRS (C_3)	b_6	.01	.00	2.30	.02
CRQ Co-Brooding subscale (C_4)	b_7	-.0004	.00	-.07	.94

Note. CRQ = Co-Rumination Questionnaire. MAACL = Multiple Affective Adjective List.

BAI = Beck Anxiety Inventory. RRS = Ruminative Response Style total score.

BECK INVENTORY

This questionnaire lists groups of statements that describe feelings in the past two weeks. Please read each group of statements carefully, and then pick the one statement in each group that best describes how you have been feeling the PAST TWO WEEKS. Please pick at least one statement from each group.

1.

__ I do not feel sad

__ I feel sad

__ I am sad all the time and I can't snap out of it

__ I am so sad or unhappy that I can't stand it

2.

__ I am not particularly discouraged about the future

__ I feel discouraged about the future

__ I feel I have nothing to look forward to

__ I feel the future is hopeless and that things cannot improve

3.

__ I do not feel like a failure

__ I feel I have failed more than the average person

__ As I look back on my life, all I can is a lot of failures

__ I feel I am a complete failure

4.

__ I get as much satisfaction out of things as I used to

__ I don't enjoy things the way I used to

__ I don’t get real satisfaction out if anything anymore

__ I am dissatisfied or bored with everything

5.

__ I don’t feel particularly guilty

__ I feel guilty a good part of the time

__ I feel guilty most of the time

__ I feel guilty all of the time

6.

__ I don’t feel I am being punished

__ I feel I may be punished

__ I expect to be punished

__ I feel I am being punished

7.

__ I don’t feel disappointed in myself

__ I am disappointed in myself

__ I am disgusted with myself

__ I hate myself

8.

__ I don’t feel I am any worse than anybody else

__ I am critical of myself for my weakness or mistakes

__ I blame myself all of the time for my faults

__ I blame myself for everything bad that happens

9.

__ I don't cry any more than usual

__ I cry more than I used to

__ I cry all the time

__ I used to be able to cry, but now I can't cry even though I want to

10.

__ I am no more irritated now than I ever am

__ I get annoyed or irritated more easily than I used to be

__ I feel irritated all of the time now

__ I don't get irritated at all by the things that used to irritate me

11.

__ I have not lost interest in other people

__ I am less interested in other people than I used to be

__ I have lost most of my interest in other people

__ I have lost all of my interest in other people

12.

__ I make decisions about as well as I ever could

__ I put off making decisions more than I used to

__ I have greater difficulty in making decisions than before

__ I can't make decisions at all anymore

13.

__ I don't feel I look any worse than I used to

__ I am worried that I am looking old or unattractive

__ I feel that there are permanent changes in my appearance that make me look unattractive

__ I believe that I look ugly

14.

__ I can work as well as before

__ It takes an extra effort to get started at doing something

__ I have to push myself very hard to do anything

__ I can't do any work at all

15.

__ I can sleep as well as usual

__ I don't sleep as well as I used to

__ I wake up 1-2 hours earlier than usual and find it hard to get back to sleep

__ I wake up several hours earlier than I used to and cannot get back to sleep

16.

__ I don't get more tired than I used to

__ I get tired more easily than I used to

__ I get tired from doing almost anything

__ I am too tired to do anything

17.

__ My appetite is no worse than usual

__ My appetite is not as good as it used to be

__ My appetite is much worse than now

__ I have no appetite at all anymore

18.

__ I haven't lost much weight, if any, lately

__ I have most more than 5 pounds

__ I have lost more than 10 pounds Check here is you have been trying to lose weight ____

__ I have lost more than 15 pounds

19.

__ I am no more worried about my health than usual

__ I am worried about physical problems such as aches and pains, upset stomach or constipation

__ I am very worried about physical problems and it's hard to think of much else

__ I am so worried about physical problems that I can't think about anything else

20.

__ I have not noticed any recent changes in my interest in sex

__ I am less interested in sex than I used to be

__ I am much less interested in sex now

__ I have lost interest in sex completely

When We Talk About Our Problems

Think about the way you <u>usually</u> are with your best or closest friends, especially within the <u>PAST MONTH</u>, and circle the number for each of the following statements that best describes you.

1. We spend most of our time together talking about problems that my friend or I have.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

2. If one of us has a problem, we will talk about the problem rather than talking about something else or doing something else.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

3. After my friend tells me about a problem, I always try to get my friend to talk more about it later.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

4. When I have a problem, my friend always tries really hard to keep me talking about it.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

5. When one of us has a problem, we talk to each other about it for a long time.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

6. When we see each other, if one of us has a problem, we will talk about the problem even if we had planned to do something else together.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

7. When my friend has a problem, I always try to get my friend to tell me every detail about what happened.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

8. After I've told my friend about a problem, my friend always tries to get me to talk more about it later.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

9. We talk about problems that my friend or I are having almost every time we see each other.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

10. If one of us has a problem, we will spend our time together talking about it, no matter what else we could do instead.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

11. When my friend has a problem, I always try really hard to keep my friend talking about it.

1	2	3	4	5
Not At All True	A Little True	Somewhat True	Mostly True	Really True

12. When I have a problem, my friend always tries to get me to tell every detail about what happened.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

****

When we talk about a problem that one of us has....

1. ... we will keep talking even after we both know all of the details about what happened.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

2. ... we talk for a long time trying to figure out all of the different reasons why the problem might have happened.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

3. ... we try to figure out every one of the bad things that might happen because of the problem.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

4. ... we spend a lot of time trying to figure out parts of the problem that we can't understand.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

5. ... we talk a lot about how bad the person with the problem feels.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

6. ... we'll talk about every part of the problem over and over.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

When we talk about a problem that one of us has...

7. ... we talk a lot about the problem in order to understand why it happened.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

8. ... we talk a lot about all of the different bad things that might happen because of the problem.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

9. ... we talk a lot about parts of the problem that don't make sense to us.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

10. ... we talk for a long time about how upset is has made one of us with the problem.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

11. ... we usually talk about that problem every day even if nothing new has happened.

1	**2**	**3**	**4**	**5**
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

12. ... we talk about all of the reasons why the problem might have happened.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

13. ... we spend a lot of time talking about what bad things are going to happen because of the problem.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

14. ... we try to figure out everything about the problem, even if there are parts that we may never understand.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

15. ... we spend a long time talking about how sad or mad the person with the problem feels.

1	2	3	4	5
Not At All True	**A Little True**	**Somewhat True**	**Mostly True**	**Really True**

ASQ

Instructions We are interested in how you experience and manage your emotions. Obviously, different situations bring out somewhat different responses, but think about what you *usually* do. Please try to respond to each item *separately in your mind from each other item*. Do not indicate agreement with things that you think you should do or wish you do. Instead, choose your answers thoughtfully, and make your answers about what is true FOR YOU. Please answer *every* item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU-—not what you think "most people" would say or do. Use the scale below to answer each item

1	2	3	4	5
not true of me at all	**a little bit**	**moderately**	**quite a bit**	**extremely true of me**

1.	People usually can't tell how I am feeling inside.	1—2—3—4—5
2.	I have my emotions well under control	1—2—3—4—5
3.	I can tolerate having strong emotions.	1—2—3—4—5
4.	I can avoid getting upset by taking a different perspective on things.	1—2—3—4—5
5.	I often suppress my emotional reactions to things.	1—2—3—4—5
6.	It's ok if people see me being upset.	1—2—3—4—5
7.	I can calm down very quickly	1—2—3—4—5
8.	I am able to let go of my feelings.	1—2—3—4—5
9.	I am good at hiding my feelings.	1—2—3—4—5
10.	People usually can't tell when I am upset.	1—2—3—4—5
11.	It's ok to feel negative emotions at times.	1—2—3—4—5
12.	I can get out of a bad mood very quickly.	1—2—3—4—5
13.	People usually can't tell when I am sad.	1—2—3—4—5
14.	I can tolerate being upset.	1—2—3—4—5
15.	I can act in a way that people don't see me being upset.	1—2—3—4—5
16.	I know exactly what to do to get myself into a better mood.	1—2—3—4—5
17.	There is nothing wrong with feeling very emotional.	1—2—3—4—5
18.	I could easily fake emotions.	1—2—3—4—5
19.	I can get into a better mood quite easily.	1—2—3—4—5
20.	I can hide my anger well if I have to.	1—2—3—4—5

All items are straight-forward scored. Higher scores reflect a preference for an affective style. Concealing is the sum of items 1, 5, 9, 10, 13, 15, 18, and 20. Adjusting is the sum of items 2, 4, 7, 8, 12, 16, and 19. Tolerating is the sum of items 3, 6, 11, 14, and 17

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not at all	Mildly, but it didn't bother me much	Moderately – it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding / racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot / cold sweats	0	1	2	3

Instructions: Different people use different strategies to deal with situations and problems in their lives. Below are a number of strategies that people may use to deal with situations and problems. A number of the items below refer to dealing with situations at work or school. If you are not currently working or attending school, answer these items instead using your daily duties and activities. Please read each statement carefully and indicate how true, ***in general***, each statement is for you using the following key:

1= **Not at all** true for me
2= **Somewhat** true for me
3= **Moderately** true for me
4= **Very much** true for me
5= **Extremely** true for me

(Scoring only)

1. I avoid attending social activities.	1	2	3	4	5				
2. When uncertain about my future, I fail to sit down and think about what I really want.	1	2	3	4	5				
3. I would like to achieve things at work/school, but I have to accept my limits.	1	2	3	4	5				
4. I fail to do what is needed to follow through with achievement goals I have set for myself.	1	2	3	4	5				
5. In order to avoid feelings of disappointment, I just try not to get too serious about work/school.	1	2	3	4	5				
6. Rather than try new activities, I tend to stick with the things I know.	1	2	3	4	5				
7. I choose to turn down opportunities to further my education/career.	1	2	3	4	5				
8. I do not answer the phone in case people are calling with social invitations.	1	2	3	4	5				
9. I quit activities that challenge me too much.	1	2	3	4	5				
10. I try not to think about problems in my personal relationships.	1	2	3	4	5				
11. I think to myself that I will not be able to complete really challenging tasks.	1	2	3	4	5				
12. While I know I should make decisions about my personal relationships, I just let things go on as they are.	1	2	3	4	5				
13. I avoid trying new activities that hold the potential for failure.	1	2	3	4	5				
14. I do not go out to events when I know there will be a lot of people I do not know.	1	2	3	4	5				
15. Instead of thinking about problems in my social life, I tell myself that I prefer to be alone.	1	2	3	4	5				
16. I fail to discuss/address tension that builds in a friendship.	1	2	3	4	5				
17. I find that I often want to leave social gatherings.	1	2	3	4	5				
18. I do not try to think about ways to improve my work/school performance.	1	2	3	4	5				

Total of Shaded Portion of Column Page 1 __ __ __ __

(Scoring only)

19. I try not to think about my future and what I will do with my life.	1	2	3	4	5				
20. I just wait out tension in my relationships hoping that it will go away.	1	2	3	4	5				
21. I tend to make up excuses to get out of social activities.	1	2	3	4	5				
22. There is nothing I can do to improve problems in my relationships.	1	2	3	4	5				
23. I turn down opportunities to socialize with the opposite sex.	1	2	3	4	5				
24. I tend to remain to myself during social gatherings or activities.	1	2	3	4	5				
25. I avoid making decisions about my future.	1	2	3	4	5				
26. When I experience confusion in my relationships, I do not try to figure things out.	1	2	3	4	5				
27. While I know that I have to make some important decisions about school/work, I just do not get down to it.	1	2	3	4	5				
28. Rather than getting out and doing things, I just sit at home and watch TV.	1	2	3	4	5				
29. I distract myself when I start to think about my work/school performance.	1	2	3	4	5				
30. I do not bother thinking about how to solve problems in my family – it is useless.	1	2	3	4	5				
31. I find myself avoiding tasks and assignments that are really important.	1	2	3	4	5				

Total of Shaded Portion of Column Page 1 __ __ __ __

+ Total of Shaded Portion of Column Page 2 __ __ __ __

TOTAL of Pages 1 and 2 __ __ __ __

BS BN CS CN

Please indicate how helpful you feel the above described type of avoidance strategies are for you in dealing with life situations and problems by circling the number corresponding with helpfulness rating that applies to you:

1	2	3	4	5
Not at all helpful	Somewhat helpful	Moderately helpful	Very much helpful	Extremely helpful

Challenge and Acceptance Statements

Participants rate items on a 7-point Likert scale that ranges from 1 (*not at all*) to 7 (*very much*) to rate the frequency that they receive acceptance and challenge statements.

"When I talk to my friend about a problem that I have, they…

1) shows that she cares about me (Acceptance)
2) responds in a friendly voice (Acceptance)
3) is emotionally cold (Acceptance; Reverse Score)
4) is judgmental (Acceptance; Reverse Score)
5) pushes me to do better (Challenge)
6) makes me really think about my choices (Challenge)
7) provides a different perspective (Challenge)
8) encourages me to make good choices (Challenge)
9) energizes me (Challenge)
10) side-steps or avoids issues related to my problem (Challenge; Reverse Score)
11) implies that doing something about the problem is not important (Challenge; Reverse Score)
12) deflates my motivation (Challenge; Reverse Score)

MAACL

INSTRUCTIONS: Below are listed a number of words that people sometimes use to describe their feelings. For each of the following words, check the ones that most closely describe your feelings and mood right now. Please check all of the words that describe your current feelings.

___ active
___ alive
___ alone
___ awful
___ blue
___ clean
___ destroyed
___ discouraged
___ enthusiastic
___ fine
___ fit
___ forlorn
___ pleased
___ glad
___ gloomy
___ good
___ healthy
___ hopeless
___ inspired
___ interested
___ lonely
___ lost
___ low
___ lucky
___ merry
___ miserable
___ good-natured
___ peaceful
___ rejected
___ sad
___ safe
___ strong
___ suffering
___ sunk
___ terrible
___ tormented
___ unhappy
___ whole
___ wilted
___ young

___ agreeable
___ amiable
___ angry
___ bitter
___ cooperative
___ cruel
___ disagreeable
___ discontented
___ disgusted
___ enraged
___ friendly
___ furious
___ irritated
___ kindly
___ mad
___ mean
___ offended
___ outraged
___ polite
___ stormy
___ sympathetic
___ tame
___ tender
___ understanding
___ unsociable
___ miffed
___ willful

___ afraid
___ contented
___ desperate
___ fearful
___ joyful
___ loving
___ nervous
___ panicky
___ steady
___ thoughtful
___ secure
___ upset
___ cheerful
___ frightful
___ happy
___ tense
___ calm
___ shaky
___ worried

RRS

People think and do many things when they feel down. Please read each of the items below and indicate whether you never, sometimes, often, or always think or do each of the following things when you feel down, sad, or depressed. Please indicate what you *generally* do, not what you think you should do.

1. Think, "What am I doing to deserve this?"

Almost never Sometimes Often Almost always

2. Analyze recent events to try to understand why you are depressed

Almost never Sometimes Often Almost always

3. Think, "Why do I always react this way?"

Almost never Sometimes Often Almost always

4. Go away by yourself and think about why you feel this way

Almost never Sometimes Often Almost always

5. Write down what you are thinking and analyze it

Almost never Sometimes Often Almost always

6. Think about a recent situation, wishing it had gone better

Almost never Sometimes Often Almost always

7. Think "Why do I have problems other people don't have?"

Almost never Sometimes Often Almost always

8. Think, "Why can't I handle things better?"

Almost never Sometimes Often Almost always

9. Analyze your personality to try to understand why you are depressed

Almost never Sometimes Often Almost always

10. Go someplace alone to think about your feelings

Almost never Sometimes Often Almost always

INVENTORY TO DIAGNOSE DEPRESSION – Current

On this questionnaire are groups of five statements.

Read each group of statements carefully. Then pick out the one statement in each group that best describes the way you have been feeling the PAST WEEK. Select the statement that you pick. Depending on your answer, you will be asked whether you have been feeling that way for more or less than two weeks.

1) 0 I do not feel sad or depressed.
   1 I occasionally feel sad or down.
   2 I feel sad most of the time, but I was able to snap out of it.
   3 I feel sad all the time, and I couldn't snap out of it.
   4 I am so sad or unhappy that I couldn't stand it.

This has lasted MORE/LESS than two weeks (circle one)

2) 0 My energy level ss normal.
   1 My energy level is a little lower than normal.
   2 I get tired more easily and have less energy than is usual.
   3 I get tired from doing almost anything.
   4 I feel tired or exhausted almost all the time.

This has lasted MORE/LESS than two weeks (circle one)

3) 0 I am not feeling more restless and fidgety than usual.
   1 I feel a little more restless or fidgety than usual.
   2 I am very fidgety, and I had some difficultly sitting still in a chair.
   3 I am extremely fidgety, and I pace a little bit almost everyday.
   4 I pace more than an hour per day, and I can’t sit still.

This has lasted MORE/LESS than two weeks (circle one)

4) 0 I do not talk or move more slowly than usual.
   1 I talk a little slower than usual.
   2 I speak slower than usual, and it takes me longer to respond to questions, but I can still carry on a normal conversation.
   3 Normal conversations are difficult for me because it is hard to start talking.
   4 I feel extremely slowed down physically, like I am stuck in mud.

This has lasted MORE/LESS than two weeks (circle one)

5) 0 I have not lose interest in my usual activities.
   1 I am a little less interested in 1 or 2 of my usual activities.
   2 I am less interested in several of my usual activities.
   3 I am losing most of my interest in almost all of my usual activities.

4 I lost interest in all of my usual activities.

This has lasted MORE/LESS than two weeks (circle one)

6) 0 I get as much pleasure out of my usual activities as usual.
1 I get a little less pleasure from 1 or 2 of my usual activities.
2 I get less pleasure from several of my usual activities.
3 I get almost no pleasure from several of my usual activities.
4 I get no pleasure from any of the activities which I usually enjoy.

This has lasted MORE/LESS than two weeks (circle one)

7) 0 My interest in sex is normal.
1 I am only slightly less interested in sex than usual.
2 There is a noticeable decrease in any interest in sex.
3 I am much less interested in sex.
4 I lost all interest in sex.

This has lasted MORE/LESS than two weeks (circle one)

8) 0 I do not feel guilty.
1 I occasionally feel a little guilty.
2 I often feel guilty.
3 I feel quite guilty most of the time.
4 I feel extremely guilty most of the time.

This has lasted MORE/LESS than two weeks (circle one)

9) 0 I do not feel like a failure.
1 My opinion of myself is occasionally a little low.
2 I feel I am inferior to most people.
3 I feel like a failure.
4 I feel I am a totally worthless person.

This has lasted MORE/LESS than two weeks (circle one)

11) 0 I can concentrate as well as usual.
1 My ability to concentrate is lightly worse than usual.
2 My attention span is not as good as usual and I have difficulty collecting my thoughts; but this doesn't cause any problems.
3 My ability to read or hold a conversation is not as good as usual.
4 I cannot read, watch TV, or have a conversation without great difficulty.

This has lasted MORE/LESS than two weeks (circle one)

12) 0 I make decisions as well as usual.

1 Decision making is slightly more difficult than usual.
2 It is harder and takes longer to make decisions, but I do make them.
3 I am unable to make some decisions.
4 I can't make any decisions at all.

This has lasted MORE/LESS than two weeks (circle one)

13) 0 My appetite is not less than normal.
1 My appetite is slightly worse than usual.
2 My appetite is clearly not as good as usual, but I still eat.
3 My appetite is much worse.
4 I have no appetite at all, and I have to force myself to eat even a little.

This has lasted MORE/LESS than two weeks (circle one)

14) 0 I haven't lose any weight.
1 I lost less than 5 pounds.
2 I lost between 5-10 pounds.
3 I lost between 11-25 pounds.
4 I lost more than 25 pounds.

This has lasted MORE/LESS than two weeks (circle one)

15) 0 My appetite is not greater than normal.
1 My appetite is slightly greater than usual.
2 My appetite is clearly greater than usual.
3 My appetite is much greater than usual.
4 I feel hungry all the time.

This has lasted MORE/LESS than two weeks (circle one)

16) 0 I haven't gained any weight.
1 I gained less than 5 pounds.
2 I gained between 5-10 pounds.
3 I gained between 11-25 pounds.
4 I gained more than 25 pounds.

This has lasted MORE/LESS than two weeks (circle one)

17) 0 I am sleeping less than usual.
1 I occasionally have light difficulty sleeping.
2 I clearly don't sleep as well as usual.
3 I sleep about half my normal amount of time.
4 I sleep less than 2 hours per night.

This has lasted MORE/LESS than two weeks (circle one)

18) 0 I am not sleeping more than normal.
   1 I occasionally sleep more than usual.
   2 I frequently sleep at least 1 hour more than usual.
   3 I frequently sleep at least 2 hours more than usual.
   4 I frequently sleep at least 3 hours more than usual.

This has lasted MORE/LESS than two weeks (circle one)

19) 0 I do not feel anxious, nervous, or tense.
   1 I occasionally feel a little anxious.
   2 I often feel anxious.
   3 I feel anxious most of the time.
   4 I feel terrified and near panic.

This has lasted MORE/LESS than two weeks (circle one)

20) 0 I do not feel discouraged about the future.
   1 I occasionally feel a little discouraged about the future.
   2 I often feel discouraged about the future.
   3 I feel very discouraged about the future most of the time.
   4 I feel that the future is hopeless and that things will never improve.

This has lasted MORE/LESS than two weeks (circle one)

21) 0 I do not feel irritated or annoyed.
   1 I occasionally get a little more irritated than usual.
   2 I get irritated or annoyed by things that usually don't bother me.
   3 I feel irritated or annoyed almost all the time.
   4 I feel so depressed that I don’t get irritated at all by things that would normally bother me.

This has lasted MORE/LESS than two weeks (circle one)

22) 0 I am not worried about my physical health.
   1 I am occasionally concerned about bodily aches and pains.
   2 I am worried about my physical health.
   3 I am very worried about my physical health.
   4 I am so worried about my physical health that I cannot think about anything else.

This has lasted MORE/LESS than two weeks (circle one)

23) 0 This bout of depression is the only one I have ever had.
   1 I have had an additional period of depression similar to the one I already described.
   2 I have had two more periods of depression similar to the one I already described.
   3 I have had three more periods of depression similar to the one I already described.
   4 I have had four or more periods of depression similar to the one I already described.

24) 0 I did not get any treatment for how I felt.
1 I got psychotherapy, but did not take anti-depressant medication.
2 I took anti-depressant medication, but did not get psychotherapy.
3 I got psychotherapy and took anti-depressant medication(s).
4 I was admitted to a psychiatric hospital for treatment.

Emotion Reactivity Scale
ERS

Items

5. I tend to get very emotional very easily.
9. Even the littlest things make me emotional.
3. When I experience emotions, I feel them very strongly/intensely.
1. When something happens that upsets me, it's all I can think about it for a long time.
6. I experience emotions very strongly.
19. My moods are very strong and powerful.
15. My emotions go from neutral to extreme in an instant.
8. When I feel emotional, it's hard for me to imagine feeling any other way.
20. I often get so upset it's hard for me to think straight.
2. My feelings get hurt easily.
4. When I'm emotionally upset, my whole body gets physically upset as well.
11. When I am angry/upset, it takes me much longer than most people to calm down.
17. People tell me that my emotions are often too intense for the situation.
7. I often feel extremely anxious.
13. I am often bothered by things that other people don't react to.
14. I am easily agitated.
18. I am a very sensitive person.
21. Other people tell me I'm overreacting.
16. When something bad happens, my mood changes very quickly. People tell me I have a very short fuse.
10. If I have a disagreement with someone, it takes a long time for me to get over it.
12. I get angry at people very easily.

Each item of the ERS is rated on a 0 to 4 scale (0 = not at all like me and 4 = completely like me), with total possible scores ranging from 0 to 84.

Big Five Inventory-10 (BFI-10)

Instruction: How well do the following statements describe your personality?

I see myself as someone who …	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
… is reserved	(1)	(2)	(3)	(4)	(5)
… is generally trusting	(1)	(2)	(3)	(4)	(5)
… tends to be lazy	(1)	(2)	(3)	(4)	(5)
… is relaxed, handles stress well	(1)	(2)	(3)	(4)	(5)
… has few artistic interests	(1)	(2)	(3)	(4)	(5)
… is outgoing, sociable	(1)	(2)	(3)	(4)	(5)
… tends to find fault with others	(1)	(2)	(3)	(4)	(5)
… does a thorough job	(1)	(2)	(3)	(4)	(5)
… gets nervous easily	(1)	(2)	(3)	(4)	(5)
… has an active imagination	(1)	(2)	(3)	(4)	(5)

Scoring the BFI-10 scales:
Extraversion: 1R, 6; Agreeableness: 2, 7R; Conscientiousness: 3R, 8; Neuroticism: 4R, 9; Openness: 5R; 10 (R = item is reversed-scored).

Below is a list of areas of life that might have been affected by Corona virus (Covid-19). Please indicate if you yourself experienced difficulties in any of these areas due to Corona virus.

Due to circumstances surrounding Corona virus (Covid-19), I experienced difficulties with:

1. **School**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

2. **Employment**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

3. **Finances**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

4. **Access to basic needs (ex: food, shelter)**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

5. **Physical health complications**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

6. **Psychological health complications (ex: anxiety, stress, feeling blue)**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

7. **Friendship/Social relationships**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

8. **Family relationships**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

9. **Romantic relationships**
   0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

10. **Other**
    0 – Not at all 1 – Somewhat 2 – Moderately 3 – Very Much So

Think about how you usually communicate with you best or close friend, especially in the past month, when you are talking about your problems. How often do you talk about your problems via:

1. Talking face to face (in-person).
   0-never **1- Sometimes** **2- Often** **3- Almost Always**

2. Talking on the phone.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

3. Texting on the phone (including messenger apps, such as WhatsApp).

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

4. Streaming video, such as Zoom or Skype.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

5. Facebook.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

6. Instragram.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

7. Twitter.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**

8. Email.

   0-never **1- Sometimes** **2- Often** **3- Almost Always**